

Article

The Social Network Consequences of a Gang Murder Blowout

Alice Airola and Martin Bouchard *

School of Criminology, Simon Fraser University, Burnaby, BC V5A 1S6, Canada; alice_airola@sfu.ca

* Correspondence: mbouchard@sfu.ca

Received: 28 September 2020; Accepted: 7 November 2020; Published: 11 November 2020



Abstract: An unexpected crisis in a criminal organization offers a rare opportunity to analyze whether and how the configuration of business and trust relationships changes in response to external shocks. The current study recreates the social network of the Red Scorpion gang members involved in the Surrey Six Murder, one of the deadliest gang-related homicides to occur in Canada. The event, which involved two bystanders and six victims in total, was the result of a poorly executed retaliation. Our analyses focus on two phases of the network, the conspiracy phase and the post-murder phase. In each phase, we examine the balance of business, trust, and conflictual ties. Results show that the relative importance of key participants changed from the conspiracy to the post-murder phases, whereby strong, trusted ties gained prominence over the mostly business-oriented network of the conspiracy phase.

Keywords: gangs; social networks; crisis; organized crime; homicide; violence; retaliation

1. Introduction

Crime network scholars have sought to describe the inner workings of gangs and criminal organizations for long enough, now, that we have a general understanding of their structure, especially as it relates to specific activities such as drug trafficking (e.g., [Bichler et al. 2017](#); [Bright and Delaney 2013](#); [Calderoni 2012](#); [Malm et al. 2017](#); [Malm and Bichler 2011](#); [Morselli 2009](#); [Natarajan 2006](#)) and human smuggling ([Bruinsma and Bernasco 2004](#); [Campana 2020](#)). More recently, an increasing number of scholars have turned to network data to study conflicts among gangs ([Bichler et al. 2019](#); [Descormiers and Morselli 2011](#); [Lewis and Papachristos 2020](#); [McCuish et al. 2015](#); [Papachristos 2009](#); [Papachristos et al. 2013](#)). Rarely, however, can we dive inside a specific gang to examine how they manage relationships in trying times, such as when gang leaders are arrested, when a new gang challenges one's turf, or when the gang is under fire for having killed one or multiple bystanders.

The current study proposes to take an inside look into a specific murder conspiracy gone wrong. The conspiracy involves one of the most famous criminal organizations based in British Columbia (BC), Canada, the Red Scorpions. In summer 2007, two criminal groups merged forces under the label of the Red Scorpions (RS). The alliance expanded the organization, which now had two sides, the "Asian" and the "White" side, labeled as such by the members themselves. The so-called Asian side was led by Michael Le, the original founder of the Red Scorpions, while the White side was led by James Bacon, the leader of another criminal group involved in drug trafficking in the same area. The purpose of the merger was to improve the two groups' power within the drug trade via cooperation, including an improved ability to defend their turf against rivals when required.

With its loose hierarchy and emphasis on loyalty and symbolism, the Red Scorpions shared some organizational features with some of the mature, business-oriented gangs found in the American (e.g., [Bichler et al. 2019](#); [Papachristos 2009](#)) or Canadian (e.g., [Descormiers and Morselli 2011](#)) literature.

Gang members could be identified by “RS” tattoos on their arms and necks, and the new members had to pass a sort of probatory period before being accepted as part of the Red Scorpion family. The main business of the Red Scorpions was running drug lines in the Lower Mainland, what locals labeled as “dial-a-dope” operations—a text messaging drug delivery service. At the time of the merger, approximately 30 to 40 members had the tattoos and were considered official members. Among them, approximately 20 to 30 individuals regularly attended the Red Scorpions meetings.

Court documents revealed that a few months after the merger, “bad blood” developed between James Bacon and a rival drug dealer, Corey Lal. Bacon threatened his rival’s life and decided to tax him \$100,000 as a way of resolving the dispute. But Lal never paid, so a conspiracy for his murder took shape. Otherwise, the RS group would look weak and powerless. Three members of the Asian Side, leader Michael Le, Matthew Johnston, and Cody Haevischer, along with four members of the White side, leader James Bacon, Person X, Person Y, and Kevin Leclair, participated in the conspiracy. The Surrey Six Murder took place on 19 October 2007, when Johnston, Haevischer, and a third unnamed accomplice (“Person X”) broke into an apartment located in Surrey, BC, where Lal was used to carrying out his activities related to the drug business. That day, Lal was not alone; another four people were with him in the apartment, including one individual who was not involved in the drug trade. Another person, not involved in the drug trade, was dragged into the apartment from the hallway. All six people were shot to death in an attempt at eliminating any possible witnesses.

The Surrey Six Murder was the result of a series of unexpected external contingencies that thrust the organization into a crisis. The concept of crisis here refers to the chaotic group response that followed the gang homicide. The execution of six people was neither planned nor wanted by the group; the organization was not ready to deal with such a major event a few months after the merger and did not have a precise strategy to follow in case of unexpected contingencies. The aim of this study is to examine the social network consequences of this event on a major criminal organization like the Red Scorpions. Several studies have examined the effects of a crisis on legal organizations, but few studied crises in criminal organizations. Does the network become more cohesive—a sort of retrenchment phase—or does it instead break and fragment itself? We use social network analysis (SNA) as an integrative framework to describe both the network consequences for the organization, and the individuals within it.

2. Group Structure and Individual Centrality in Times of Crises

Organizational crises have been operationalized in different ways, including organizational death, decline, retrenchment, and failure (Mellahi and Wilkinson 2004). All definitions share a common feature: they underline that group crises have consequences on organizational structures and dynamics.

Sociologists have primarily focused on group dynamics and changes during crises in legitimate organizations (i.e., Hamblin 1958; Fink et al. 1971; Mulder et al. 1971; Tutzauer 1985; Uddin et al. 2010; Hossain et al. 2013). A number of studies have explored group dynamics during crises through the lens of SNA (e.g., Tutzauer 1985; Uddin et al. 2010; Hossain et al. 2013). These studies highlighted how a crisis within an organization impacts its internal structure or cohesion. Cohesion refers to the degree of connectedness of nodes within a network: The more people who are connected to each other, the more a network can be defined as cohesive. The inverse of cohesion is fragmentation, which refers to the proportion of nodes within a network that cannot reach each other by any path (Borgatti 2006).

Network scholars have discussed two effects of crises: (1) network fragmentation increases, creating multiple cliques (small, highly connected groups) (i.e., Uddin et al. 2010; Hossain et al. 2013); (2) homophily increases (i.e., see Lanzetta 1955). Homophily and network fragmentation are related concepts. The term “homophily” refers to the tendency of people to interact more with individuals they perceive as similar (McPherson et al. 2001). Fragmentation may increase homophilic individuals’ tendencies to interact with similar others—and vice versa: a person’s tendency toward homophily may itself lead to more fragmentation in times of crises, when the benefits of homophilous connections may also increase. For instance, Hossain et al. (2013) examined the crisis that afflicted the Enron Corporation

in 2001. Enron was one of the most important American energy, commodities, and services companies between 1985 and 2000. The authors analyzed Enron's e-mail networks, deriving from the large set of messages released by the US Federal Energy Regulatory Commission (FERC), to assess the changes that occurred in the communication network structures during the year of the crisis in 2001. The results showed a sharp increase in the number of cliques as the organization moved toward the peak of the crisis. Network members faced the crisis by increasing communication within small groups of people who felt closer to each other. [Tutzauer \(1985\)](#) claimed that, when two communication networks with the same number of ties and nodes are compared, the network characterized by the higher number of cliques is likely to be closer to dissolution. Yet, the presence of the cliques does not necessarily imply fragmentation of the whole organization. [Stogdill \(1959\)](#) suggested that group integration is higher when the subgroups are well coordinated and support the structure and the objectives of the larger group. In this context, subgroups or cliques can represent an escape from the organizational pressure and contribute to reinforcing the values and the identification of clique members with the larger group structure ([Stogdill 1959](#)). However, too much independence may hinder survival in the long run.

It is unclear whether illegal organizations behave similarly when crises occur. Some indirect results from studies examining the consequences of fragmentation have shown that an increase in fragmentation within illegal organizations has often led to increased competition and violence among newly born small groups (i.e., [Massari and Martone 2019](#); [Atuesta and Pérez-Dávila 2018](#); [Falcone and Padovani 1991](#); [Vargas 2014](#)). [Massari and Martone \(2019\)](#) argued that the high level of fragmentation characterizing the Camorra is one of the explanatory factors used to understand the extremely violent nature of this criminal organization. [Atuesta and Pérez-Dávila \(2018\)](#) showed that the fragmentation within Mexican cartels led to a significant increase in intra-gang violence. [Falcone and Padovani \(1991\)](#) explained how inter-clan conflicts made the Italian organized groups more visible to the law enforcement, thus allowing the implementation of repressive actions that weakened the power of the Sicilian Mafia. The impact of crises may depend on the structure of the group. For example, [Vargas \(2014\)](#) showed that the arrest of two street gangs' leaders in Chicago led to increased inter-gang violence, but only within the group that lacked a solid organizational structure.

Few scholars have explored the effects of crises on criminal organizations from a network perspective. Some studies have examined the changes in criminal networks through different periods and have highlighted the flexibility that characterizes criminal networks when facing hard or unstable times (e.g., [Bright and Delaney 2013](#); [Ouellet et al. 2017](#); [Ouellet and Bouchard 2018](#)). [Bright and Delaney \(2013\)](#) examined the change and the evolution of a drug trafficking network across time and found that networks are flexible and adaptive structures following a process of adaptation similar to living organisms. Much on network adaptation can also be learned from crises occurring in terrorist groups. After all, these groups also manage their social networks, in part, to avoid law enforcement detection. [Ouellet et al. \(2017\)](#) studied the processes that drove collaboration between offenders in the Al-Qaeda (AQ) network before and after 9/11 (war on terror period). They found that although AQ leaders were still involved in planning activities after 9/11, they did so from an increased social distance, in sparser networks. Crises may also be driven by internal forces. Dissension between leader may, for instance, fragment the network, forcing the dissolution of many intragroup ties as leaders pull away from each other ([Ouellet and Bouchard 2018](#)).

A few organized crime scholars have described retrenchment processes that are helpful in framing our expectations toward the effects of crises on criminal organizations. [Paoli \(2007\)](#) described the reaction of Cosa Nostra to a massive law enforcement activity that threatened the organization. From a structural point of view, the solution of one of the most famous (and infamous) Italian Mafia bosses in modern history, Bernardo Provenzano, to ensure the cohesion and avoid potential defectors, was reducing the number of "men of honor" and creating a criminal elite to protect himself and the most important criminal members from police actions ([Paoli 2007](#)). The same strategy was adopted by Outlaw Motorcycle Clubs in the US in similar circumstances. According to [Quinn \(2001\)](#), during a

crisis, many of these clubs implemented a sort of “retrenchment” phase consisting of reducing the group size and creating an elite group based on core members.

From a network perspective, the “retrenchment strategy” suggests that, when facing crises, criminal organizations may adapt by decreasing the size of the organization, thus creating a smaller cohesive group of core members. The retrenchment strategy mentioned by Paoli (2007) and Quinn (2001) differs from the network fragmentation described by network communication scholars because of the way in which it impacts network structure and size. For example, the Enron group did not face the crisis by reducing network size, or by creating a single highly connected group of individuals (Hossain et al. 2013). The retrenchment strategy implies a significant decrease in network size, and the formation of one cohesive small group to protect the core members of the organization.

The effect of crises can also be analyzed from the point of view of individual group members. A few actors may benefit from the crises, improving their position in the network as a direct consequence of the events (Uddin et al. 2010). For instance, organizations may look to leaders for direction (Lanzetta 1955), which may increase their influence during periods of crises (Hamblin 1958), especially if they are counted on to control communications (Argote et al. 1989). The limited evidence for changes in criminal leaders’ network positions is mixed (McCuish et al. 2015; Morselli and Petit 2007; Ouellet et al. 2017). Ultimately, whether leaders emerge as stronger or weaker from a crisis may well depend on the attribution of blame—was the crisis caused by the leaders in the first place? For instance, Morselli and Petit (2007) examined a criminal organization that faced a crisis of confidence as the police started seizing each of their drug shipments while refraining from arresting anyone over the course of the 18-month investigation. This allowed them to monitor how the network reacted and adapted to the crisis. Network members showed increased dissatisfaction and distrust with the initial leaders, who eventually lost their central role in the network after new leaders emerged.

3. Shared Goals, Trust, and Control as Elements of Cohesion and Individual Centrality

The quality of the ties connecting people, and the level of control exercised by some group members over others, may impact the way in which a criminal organization faces a crisis. In this study, we differentiated between three types of ties: trust ties (i.e., strong), business ties (i.e., weak), and conflict ties (negative). Different types of ties are linked to different kinds of social needs. Weak ties allow for efficient information flow (Granovetter 1973), but strong ties that provide social support may be most needed in times of uncertainty and crisis (Krackhardt 1992). We will examine this possibility directly by comparing the balance of strong, weak, and negative ties, and after the murder.

Relational aspects such as shared goals and trust among group members may play a key role in building strong group cohesion. Shared goals and trust are two key elements of criminal cooperation (Morselli 2009; von Lampe and Johansen 2004). Criminal relationships based merely on business interests, without the trust element, can be too weak to resist during times of crisis. According to Paoli (2008b), the weakening of solidarity and trust bonds in the Sicilian Mafia in the mid-2000s has caused a growth in the number of cooperating witnesses and a decrease in the criminal group’s cohesion. Being surrounded by trustworthy offenders is even more important for those offenses that imply a higher degree of risk because they face the most serious consequences (Tremblay 1993; McCuish et al. 2015).

In this study, the level of control was articulated around (1) strategic network positioning of individuals; (2) the presence within the network of triadic groups based on strong ties. First, some individuals are more likely to exercise control over others by virtue of the strategic positions they occupy within their networks, a concept that can be measured via betweenness centrality (Morselli 2009). Betweenness centrality captures an individual’s capacity to connect others who would not be connected otherwise. Higher betweenness values are associated with the ability to control the flow of information and resources in a network (Freeman 1977). Second, Simmel (1989) argued that triadic relationships based on strong ties have the power to reduce individualities, moderating conflicts and preserving group survival by imposing a certain level of control on individuals (Krackhardt 1999). In other words,

triads based on strong ties are a source of both control and social support for their members. In our study we identified as “strong ties” the relationships between individuals who share the same criminal goals but who also trust each other.

4. The Current Study

The Surrey Six Murder represents an ideal case study to observe the impact of a crisis on network structure. The available data allowed us to distinguish the conspiracy network connections that existed before the murder, from those that emerged after the event. Our study is articulated in different levels of analysis, focused on the effect of the crisis on individual centrality, but also on the network as a whole.

We focused on three main research objectives:

- (1) To explore the impact of the crisis on network cohesion;
- (2) To investigate the impact of the crisis on leaders’ and other core members’ centrality within the network;
- (3) To understand the effects of the crisis on the quality of the ties and the level of control.

5. Materials and Methods

5.1. Data Source

The study data were extracted from court documents associated with the Surrey Six Murder Judgment. The transcript of the judgment was released in October 2014, and is available on the Supreme Court of British Columbia website at https://www.bccourts.ca/supreme_court/. The judgment referred to the trial of two members of the Red Scorpions group, two of the actual killers, Matthew Johnston and Cody Haevischer. The judgment described the reasons behind the court’s decision to charge Matthew Johnston and Cody Haevischer with first-degree murder. The court documents provided us with detailed information about the relational connections between individuals involved in the case, the Red Scorpions group, its story and the status of its members, and particulars about the quality and the strength of the relationships connecting certain central members. The judgment also contained personal information about the individuals involved in the conspiracy and in the murder (e.g., name and surname, gender, nationality, and affiliation to a criminal organization). Only the first names and family names of people directly involved in the murder were mentioned in the judgment, while witnesses or individuals not directly involved in the trial were anonymized, as they are in our study. A total of 18 individuals were identified as part of the Surrey Six Murder case from the information presented in court documents.

The mixed-method approach that we applied included extracting cohesion measures and individual centrality indices from the Surrey Six network and doing a content analysis to define the quality of ties and the level of control within the network. The content analysis started with a read-through of the 175-page long Surrey Six Judgment and other Surrey Six materials, seeking to uncover the different types of relationships that connected the nodes, and situating the relationships as occurring before or after the murder. We identified three main categories of relationships: business ties, trust ties, and conflict ties. We then coded each social interaction as one of the three relationship types. When the information about the relationships among the individuals involved in the Surrey Six case was unclear, we searched for further details in the numerous newspaper articles related to the case. Searches were conducted using the names (or surnames) of the most important Red Scorpion affiliates involved in the murder (i.e., Michael Le, Matthew Johnston, Cody Haevischer, James Bacon). The names or surnames were followed by the keywords “Surrey Six” (i.e., Michael Le Surrey Six; James Bacon Surrey Six). We examined a body of 40 newspaper articles that provided us with further information on the relationships linking the individuals involved in the murder, as well as a book on the Bacon brothers written by an investigative journalist (Langton 2013).

5.2. Measures and Procedures

Our measures of the before and after Surrey Six network focused on six elements: group size, cohesion, fragmentation, individual centrality indices, tie quality, and control. Most will be used to describe the network and meso levels, while centrality indices will be used at the individual level.

5.2.1. Network and Meso-Level Measures

Group size: Group size refers to the number of nodes and the number of ties in the network.

Cohesion: At the network level, cohesion was measured employing three network metrics called “density,” “average degree,” and “degree centralization.” Network density is the proportion of ties existing among nodes in relation to the maximum number of potential connections that can exist in the network if all nodes are reciprocally connected. Average degree refers to the average number of connections per node, which has the advantage of being less impacted by network size (a drawback of density). Finally, degree centralization assesses the extent to which the group’s cohesion is organized around a particular node (Hanneman and Riddle 2005). Note that, because cohesion is normally associated with a set of positive relationships, we removed any negative ties before calculating the cohesion measures.

Level of fragmentation: Fragmentation was calculated through the total number of cliques, or the maximum number of actors who have all possible ties among themselves. If the number of cliques increases post-murder, it implies a higher level of fragmentation within the network.

Quality of ties: Tie quality has often been expressed by the concept “strength of ties” and has been measured in different ways in prior studies. Some studies have based it on the frequency of the interactions (Granovetter 1973), the recency of the contacts (Lin et al. 1978), the nature of the relationships (i.e., Ericksen and Yancey 1980), or the presence of at least one mutual friend (Shi et al. 2007). von Lampe and Johansen (2004) highlighted the importance of at least two relational elements, trust and shared criminal goals, to consider a criminal tie strong and exploitable. We classified the network ties in three categories: (1) trust ties, (2) business ties, and (3) conflict ties. The “trust ties” (friendships, positive family and romantic connections) were the strongest ties in the network. The term “business ties” refers to those relationships that were based only on shared business goals of an illegal nature. We classified the “business ties” as “weak connections” because of the absence of trust. Finally, the term “conflict ties” refers to the relationships that were based on shared business goals, but that also involved some level of conflict (e.g., Red Scorpion affiliates who clearly stated that they mistrusted other affiliates or had a conflictual relationship with them). The “conflict ties” captured the negative relationships in the network. At the network level, the overall percentage of trust, business, and conflict ties expressed the quality of the relationships the two networks were based on.

Level of control: At the meso-level, group control was calculated by integrating two theoretical approaches: the Simmelian theory of social control (Simmel 1989) and Heider (1946) theory of cognitive balance. Drawing from Simmel (1989) theory on triadic relationships, we identified positive triadic groups as cliques that provide both social support and social control. By “positive cliques,” we referred to groups of three people connected through ties based on both shared business goals and trust.

However, triadic relationships can be composed of different types of ties, such as trust, business, and conflict ties. To establish the extent to which “mixed triads” could potentially become positive triads, we used Heider (1946) theory of cognitive balance. Cognitive balance theory proposes that when strong ties between A and B, and A and C exist, B and C are very likely develop a positive tie as well. The search for cognitive balance would encourage B and C to align their feelings with those of their common strong tie A.

Heider’s theory was subsequently translated into graphic-theoretic language by Cartwright and Harary (1956). Signed graphs assigned positive or negative values to each tie composing the triad: an odd number of negative signs made the graph unbalanced. We translated trust, shared business goals, and conflict ties into signs: trust ties were positive (+), business ties were neutral, and conflict ties were negative (−). Only those cliques composed of at least two signed ties (+ and −) were taken into account.

If the multiplication of the signed ties gave a positive result (i.e., $++ = +$; $- * - = +$), it meant that the clique was balanced; thus, the group could potentially be, or become, a strong positive clique that provided support and control. On the other hand, if the multiplication of signed ties gave a negative result (i.e., $+*- = -$), the clique was unbalanced; thus, the triadic group was not likely to become a strong positive clique. The unbalanced clique could be considered as a potential source of conflict.

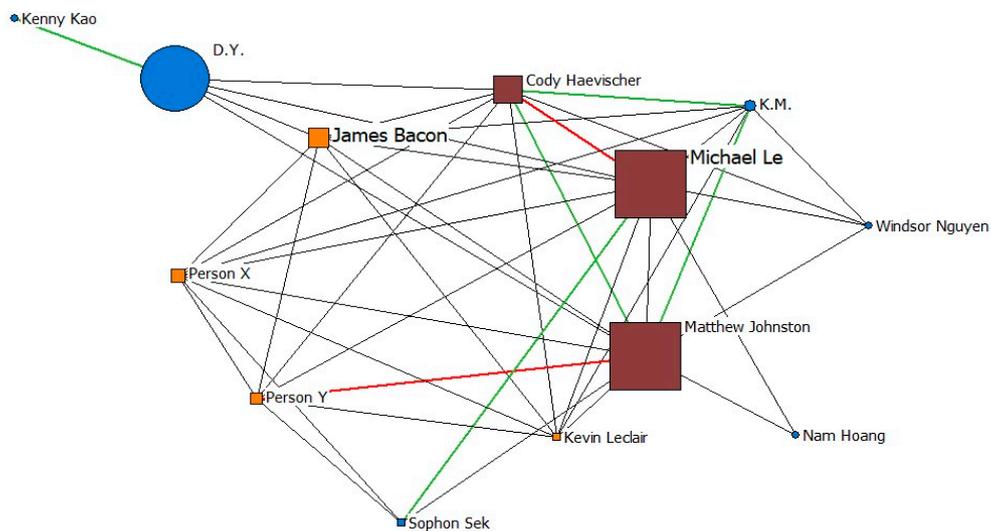
5.2.2. Individual Level of Analysis

Betweenness centrality: We measured the extent to which a node occupied a strategic position in the network using betweenness centrality = the extent to which a node connects nodes that would not be connected otherwise. Occupying a strategic position within the network also means being able to control the flow of information and resources within it (Freeman 1977).

Quality of ties: At the individual level, tie quality can influence the impact of individual positions within the network. The quality of node relationships was examined descriptively by counting the number of trust ties and conflict ties surrounding each node.

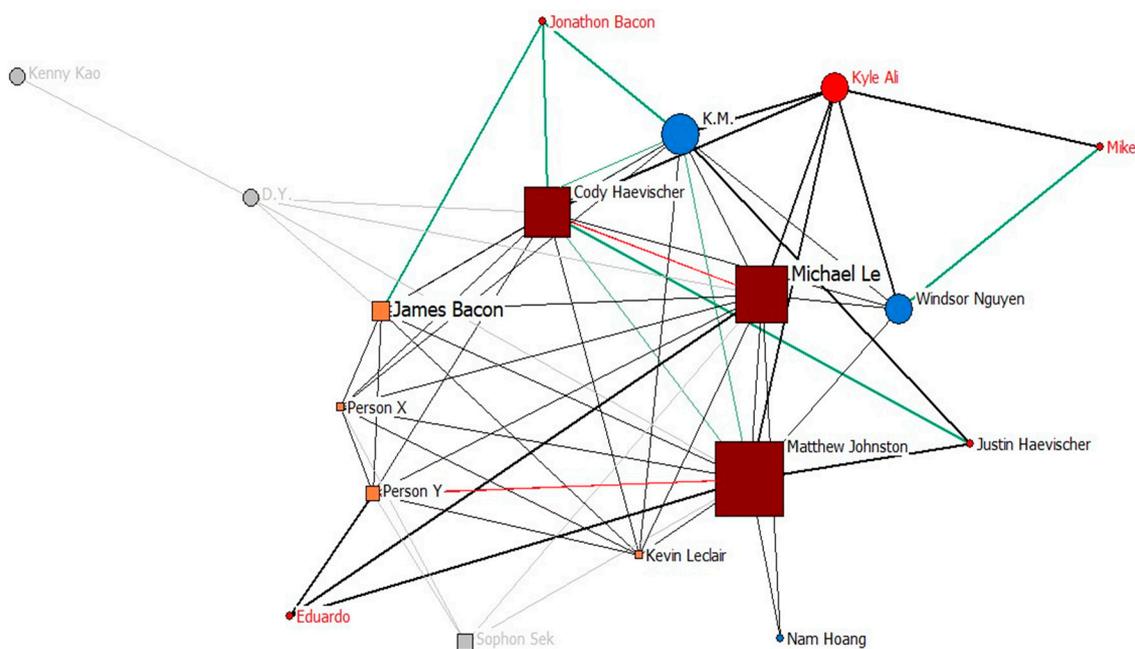
6. Results

Figure 1 represents the Surrey Six Murder network before and after the murder, respectively. The squared nodes represent the individuals who took part in the conspiracy; in brown are the Asian side’s members, while in orange, the White side’s members. The blue square in Figure 1a indicates that Sophon Sek was present during the conspiracy but was not part of the Red Scorpions group. The round nodes represent the individuals who were not directly involved in the conspiracy but who, for some reason, played a role in the Surrey Six Murder story. The red round nodes and the gray nodes in Figure 1b represent, respectively, the newcomers (nodes who were not present in the pre-murder network) and the nodes who disappeared after the murder.



(a) Conspiracy network before the murder

Figure 1. Cont.



(b) Conspiracy network after the murder

Figure 1. The Surrey Six Murder network before (a) and after (b) the murder. Notes. The squared nodes took part in the conspiracy, rounded nodes did not. The brown nodes represent the Asian side, while the orange nodes represent the White side. The black lines represent business ties, the green lines trust ties, and the red lines conflict ties. Leader names in bold. Node size by betweenness centrality. (a) The blue squared node was involved in the conspiracy but was not part of the Red Scorpions. (b) The gray nodes and lines stand for the nodes and ties that disappeared after the murder. The lines in bold and the red rounded nodes represent the ties and the nodes that appeared after the murder.

Node size was determined by betweenness centrality values; the larger the node, the higher its betweenness centrality score within the network. At first glance, we notice that the leader Michael Le and the other members of the Asian side occupied a central position in both the pre- and the post-murder network, while the members of the White side, led by James Bacon (in bold), seemed to play a more marginal role, especially after the murder. The colors of the ties stand for the quality of the relationships that bonded the nodes together. The black lines indicate that nodes were connected through a business relationship, the green lines represent relationships based on both trust and shared business goals, while the red lines represent the relationships characterized by shared business goals and some level of conflict. In Figure 1b the gray lines represent the relationships that disappeared after the murder, while the bold lines represent the new relationships that were not present before the murder.

Looking at the green ties, it is possible to identify the strong positive cliques composed of three trust ties. The clique that included Cody Haevischer, K.M., and Matthew Johnston, present in both the pre- and post-murder networks, is an example of a strong positive triad. On the other hand, the cliques with red, green, and black lines, such as the clique comprising Le, Haevischer, and Johnston in both networks, represent an unbalanced triad. Finally, the balanced triads are characterized by two green lines and one black line, such as the one including Jonathon Bacon, James Bacon and Haevischer in the post-murder network.

6.1. Network Structures before and after the Murder

To start, we examine the structures, the quality of ties, and the level of control in the network before and after the murder. The post-murder network represented the group during a period of crisis. The study focused on a period of about one year. The pre-murder phase referred to the period

from the merger, which occurred in summer 2007, to the murder in October 2007. The post-murder phase referred to the events that followed the murder until Spring 2008. Given that we were analyzing the same group under a short time frame, we did not expect the network to show dramatic changes. Yet we did expect the group to have made adjustments as they managed the aftermath of the event.

Table 1 presents a number of characteristics of the network before and after the murder. Overall, the results show that the network evolved toward increased fragmentation, as would be predicted by the literature on the impact of crises on social networks.

Table 1. Comparison of network structures before and after the Surrey Six Murder.

	Before the Murder		After the Murder
Number of nodes	13	↑	15
Number of ties	42	↑	49
Density	0.269	↓	0.233
Average degree	3.231	=	3.267
Degree centralization	0.765	↓	0.637
Number of cliques	6	↑	8
Percentage of business ties	100%	=	100%
Percentage of trust ties	11.8%	↑	16.3%
Percentage of conflict ties	4.8%	=	4.1%

Note. Arrow up and down indicates increase/decrease after the murder, respectively; equal sign means no change.

First, the network changed only slightly in size, with two more individuals and seven additional ties after the murder. Second, cohesion, which included both the density and the degree of centralization of the network, declined after the murder, with the former decreasing from 0.269 to 0.233 and the latter decreasing from 0.765 to 0.637. The decrease in centralization indicated that ties were spreading out across the network, potentially making pre-murder hubs less central than before. This was also consistent with the increased number of cliques (from six to eight) that we noticed post-murder. Average degree remained stable, showing that people did not change the number of connections they had; it was how these connections were spread out that differed.

Some changes to the post-murder network involved the quality of the ties. We observed that the proportion of trust ties increased post-murder, from 11.8% to 16.3%. The proportion of business and conflict ties remained similar.

The quantity of unbalanced triads did not vary after the murder. Both the pre- and post-murder networks were characterized by three unbalanced triads. The unbalanced cliques mostly involved core conspiracy members, such as Michael Le, Matthew Johnston, Cody Haevischer, and Person Y. The only individual involved in the unbalanced cliques who was not directly involved in the murder and who was not officially part of the Red Scorpions group was K.M—Haevischer’s girlfriend and the only woman in the network.

Where things changed, post-murder, was with the balanced triads. Indeed, no balanced triad was identifiable in the pre-murder network. Yet, three balanced triads formed after the murder. The post-murder balanced cliques included two core conspiracy members, James Bacon and Cody Haevischer, as well as three non-conspiracy members: K.M, Jonathon Bacon, and Justin Haevischer. The addition of three family/romantic ties (two brothers and a girlfriend) increased balance in the network.

The analysis of the dyadic connections characterizing the pre- and the post-murder networks further clarified what is stated above. On the one hand, the individuals who were part of the RS group and took part in the conspiracy were mostly linked to each other through business or conflict ties.

On the other hand, all the trust connections in the network linked core conspiracy members to nodes who were external to the group.

6.2. Individual Level of Analysis

Table 2 shows the individual centrality measures and the individual tie quality both before and after the murder. We assessed the nodes’ betweenness centrality by comparing the values related to the pre- and post-murder networks; thus, only those individuals who were present both before and after the murder are included in the table.

Table 2. Individual centrality measures and individual quality of ties before and after the murder.

	Before Betweenness		After Betweenness	Before Trust and Distrust		After Trust and Distrust
“Asian Side”						
Matthew Johnston	0.174	↑	0.192	2 T + 1 D	⊖ _T ⊖ _D	2 T + 1 D
Michael Le	0.174	↓	0.139	1 T + 1 D	↓ _T ⊖ _D	0 T + 1 D
Cody Haevischer	0.059	↑	0.119	2 T + 1 D	↑ _T ⊖ _D	4 T + 1 D
“White Side”						
James Bacon	0.033	⊖	0.030	0 T + 0 D	↑ _T ⊖ _D	1 T + 0 D
Person X	0.019	↓	0.002	00	⊖ _T ⊖ _D	00
Person Y	0.011	↑	0.017	0 T + 1 D	⊖ _T ⊖ _D	0 T + 1 D
Kevin Leclair	0.003	⊖	0.002	00	⊖ _T ⊖ _D	00
Others						
K.M.	0.011	↑	0.093	2 T + 0 D	↑ _T ⊖ _D	3 T + 0 D
Windsor Nguyen	0.000	↑	0.066	00	↑ _T ⊖ _D	1 T + 0 D
Nam Hoang	0.000	⊖	0.000	00	⊖ _T ⊖ _D	00

In green: the nodes who experienced a significant decrease in betweenness centrality and who decreased the number of trust connections, as well. In red: the nodes who represented a significant increase in betweenness centrality and who increased the number of trust connections, as well. In bold: the leaders. Arrow up and down indicates increase/decrease after the murder, respectively; equal sign means no change.

Before the murder, individuals from the so-called Asian side of the Red Scorpions were the most prominent in terms of brokerage. All three of Johnston, Le, and Haevischer had the highest betweenness centrality scores—both before and after the murder. We could have expected James Bacon, the leader who gave rise to the dispute, to play a more important role in the Surrey Six Murder. Johnston, Le, and Haevischer were also central in terms of trust relationships. Each of them had at least one trust connection in the network. However, all three were also surrounded by a conflict tie that weakened the overall quality of their relationships. As for the outsiders to the RS or to the conspiracy, it’s worth notin that K.M occupied a unique position in the pre-murder network in terms of tie quality (two trust ties), a position that she consolidated after the murder when she added a third trusted tie.

After the murder, some changes occurred. First, none of the two leaders improved their network position. While Le experienced a slight decrease in betweenness, Johnston and Haevischer both improved their pre-murder positions. None of the RS from the White side noticeably improved their positions. Second, when focusing on tie quality, the node who experienced the greatest increase in betweenness, Haevischer, was also the one who had the largest increase in trust connections, from two to four. Leader Michael Le lost his sole trust tie post-murder—the only individual to lose a trust connection. Third, two nodes who substantially increased their betweenness centrality after the murder,

K.M. and Windsor Nguyen, were not core conspiracy members. The increase in betweenness centrality was particularly evident in the case of K.M., who became one of the most central individuals in the network after the murder.

Finally, five new individuals appeared after the murder, three of whom were Red Scorpion members' relatives: Jonathon Bacon (James' brother); Justin Haevischer (Cody's brother); Mike Nguyen (Windsor's brother). The newcomers were not involved in the conspiracy and played marginal roles in the network. However, they were rather central in terms of trust connections. Justin Haevischer, for instance, was surrounded by three trust connections, two of which linked him to core conspiracy members.

7. Discussion

The Surrey Six gang murder blowout case gave us a unique opportunity to explore the effects of a period of crisis on a criminal organization. The comparison between the pre-murder and the post-murder network helped us assess different hypotheses testing the cohesion of organizations and the centrality of individuals during crises.

Our study results showed that the Surrey Six Murder network followed many of the patterns found in legal organizations (see [Tutzauer 1985](#); [Uddin et al. 2010](#); [Hossain et al. 2013](#)). The level of fragmentation and network size increased post-murder, while the network's density and centralization decreased. These results suggested that individuals sought to increase their connections, but these new connections were not to the core conspiracy members.

We did observe network changes after the Surrey Six Murder, but the adjustments were different from the retrenchment phases that occurred in major organizations like the Italian Mafia ([Paoli 2007](#)), American biker gangs ([Quinn 2001](#)), or Al-Qaeda ([Ouellet et al. 2017](#)). Similar to what Ouellet and colleagues observed for terrorist groups like the Toronto 18 ([Ouellet and Bouchard 2018](#)), the network showed signs of fragmentation after the crisis. In addition, the role of the leaders (Le and Bacon) was diminished after the murder, something that was also observed in prior studies ([Morselli and Petit 2007](#)). This was also true of most other core conspiracy members who experienced slight decreases in betweenness centrality. Cody Haevischer was the only core conspiracy member whose centrality increased after the murder.

Analyses of tie quality and control provided insights on potential reasons for why the Surrey Six Murder network did not experience a sort of retrenchment phase around core members. The pre-murder network comprised a high percentage of business ties, but a low level of trust and control, especially within the core conspiracy members group. After the murder, the proportion of trust ties increased along with the number of positive and balanced cliques. These results supported prior research that suggested that strong ties are particularly effective when a group faces uncertainty and crisis ([Krackhardt 1992](#)), thus needing to reinforce obligations and social norms ([Coleman 1988](#)). In the same way, intensifying the level of control over individuals and information flow is essential when the group is threatened ([Argote et al. 1989](#); [Hossain et al. 2013](#)), which is especially relevant in the case of organized crime ([Paoli 2002](#)).

The increase in trust and control that characterized the post-murder network could be linked to the increase in the network's fragmentation and size. [Paoli \(2008a, 2008b\)](#) argued that criminal organizations that implemented the retrenchment strategy were built on a high level of trust and solidarity shared by all members. The meso-level analysis of dyadic relationships showed that the Red Scorpion core conspiracy group was built mainly on business and conflict ties, while the trust relationships in the pre-murder network linked mostly core members to nodes who were external to the group. The positive cliques that did exist involved mostly nodes who were external to the conspiracy. This network configuration was even clearer in the post-murder network, where we observed the addition of new trust relationships that connected the core members to nodes who were not present before the murder.

The most lasting and stable organized crime groups are typically founded on pre-existing trust ties and collective shared identity (Paoli 2002, 2007). It could be that the low levels of trust found in the Red Scorpions made room for family members and other trusted ties to join in, post-murder, as a currency that was scarce yet needed in times of crisis. Criminal organizations need to balance efficiency and security (Calderoni 2012; Morselli 2009), but they may not always search for that balance unless circumstances force them to.

The study has some limitations that are necessary to discuss. One of the main problems is missing data, as the study only includes those who were mentioned in the Surrey Six Judgment. Some individuals who were either not involved in the law enforcement investigation or included in the judicial decision may be missing. The missing data can impact all the network indices. For instance, trust ties may be more present than the court documents show. A concern related to node centrality is that the judgment is centered on the trial of two individuals, Cody Haevischer and Matthew Johnston. Thus, Haevischer and Johnston's high centrality scores may be due to the fact that they were central in the judgment. Indeed, we examined the Surrey Six conspiracy network from the point of view of two of its most central players, not the Red Scorpion network as a whole. The scientific literature on crises within criminal organizations has often analyzed changes that occurred within the organization at large, which could explain why our results sometimes diverged. As with all court data, the information included in the judgment could lack objectivity because it was mostly based on witnesses' declarations and law enforcement's recollection of the events. Thus, only the declarations that have been considered reliable by the court were included in the analysis. A further factor that might have influenced the RS network changes is the non-typical merger between the two gangs that occurred a few months before the murder. Because of the merger, the organization was potentially more exposed to fragmentation than longstanding, ethnically homogenous, and well-structured criminal organizations.

When dealing with court records and police investigations, Campana and Varese (2012) suggested performing external validity checks by means, for instance, of interviews with key informants and other open source records. Rostami and Mondani (2015) study showed that different data sources related to the same study object have a fundamental impact on the network results. Although we were able to find numerous written materials on the case, interviews with key participants would have helped provide further context on specific relationships included in the network, including potentially missing ones. Finally, the study of the Red Scorpions, as an organization, was limited to a very specific time frame. We did not have access to specific data on the evolution of the group post-crisis, nor was it the aim of the study. That said, there is some evidence to suggest that the organization suffered after many of their leaders were arrested and charged in major police operations in the years following the Surrey Six Murder. Yet more than 10 years after the post-murder phase we analyzed in this study, the Red Scorpions was still an active gang in BC (e.g., Bolan 2019).

Despite these limitations, the Surrey Six Murder represented a unique opportunity to study organized crime groups during crises from a network perspective. Rather than a retrenchment phase taking place after the murder, the network expanded in size, leading to decreased cohesion. Leaders became less central as trusted connections integrated the network. This sort of adjustment—reduced importance of leaders—is not in and of itself a negative outcome for the group. When trust is not in short supply, criminal leaders can afford to position themselves on the periphery of conspiracy networks, as heavy involvement is simply not required—trust among participants removes much of the need for control (Calderoni 2012). Trust was lacking prior to the Surrey Six murder, making it the most pressing need to address post-crisis. To our knowledge, no studies have measured the impact that a lack of trust and control can have on a criminal organization and its survival. The survival of criminal organizations depends on a variety of factors that are not necessarily linear; small groups survive longer when they forge alliances with outsiders, but larger groups benefit more when they strive to keep alliances within (Ouellet et al. 2019). Achieving proper balance between efficiency (and profit-making) and security, between waging wars over turf or sharing turf, are some of the most consequential—yet understudied—decisions made by gang leaders.

Author Contributions: Study design/framing: M.B. and A.A.; Methodology: A.A. and M.B.; Analyses: A.A.; Writing: A.A. and M.B. Both authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

References

- Argote, Linda, Marlen E. Turner, and Mark Fichman. 1989. To centralize or not to centralize: The effects of uncertainty and threat on group structure and performance. *Organizational Behavior and Human Decision Processes* 43: 58–74. [CrossRef]
- Atuesta, Laura H., and Yocelyn Samantha Pérez-Dávila. 2018. Fragmentation and cooperation: The evolution of organized crime in Mexico. *Trends in Organized Crime* 21: 235–61. [CrossRef]
- Bichler, Gisela, Aili Malm, and Tristen Cooper. 2017. Drug supply networks: A systematic review of the organizational structure of illicit drug trade. *Crime Science* 6: 1–23. [CrossRef]
- Bichler, Gisela, Alexis Norris, Jared R. Dmello, and Jasmin Randle. 2019. The impact of civil gang injunctions on networked violence between the bloods and the crips. *Crime & Delinquency* 65: 875–915.
- Bolan, Kim. 2019. Red Scorpion Gangster Gets More Than 7 Years in Jail on Drug, Gun Charges. *Vancouver Sun*. July 2. Available online: <https://vancouversun.com/news/staff-blogs/real-scoop-red-scorpion-sentenced-in-drug-and-firearms-case> (accessed on 28 October 2020).
- Borgatti, Stephen P. 2006. Identifying sets of key players in a social network. *Computational and Mathematical Organization Theory* 12: 21–34. [CrossRef]
- Bright, David A., and Jordan J. Delaney. 2013. Evolution of a drug trafficking network: Mapping changes in network structure and function across time. *Global Crime* 14: 238–60. [CrossRef]
- Bruinsma, Gerben, and Wim Bernasco. 2004. Criminal groups and transnational illegal markets. *Crime, Law and Social Change* 41: 79–94. [CrossRef]
- Calderoni, Francesco. 2012. The structure of drug trafficking mafias: The 'Ndrangheta and cocaine. *Crime, Law and Social Change* 58: 321–49. [CrossRef]
- Campana, Paolo. 2020. Human smuggling: Structure and mechanisms. In *Organizing Crime: Mafias, Markets, and Networks*. Edited by Michael Tonry and Peter Reuter. Chicago: Chicago University Press.
- Campana, Paolo, and Federico Varese. 2012. Listening to the wire: Criteria and techniques for the quantitative analysis of phone intercepts. *Trends in Organized Crime* 15: 13–30. [CrossRef]
- Cartwright, Dorwin, and Frank Harary. 1956. Structural balance: A generalization of Heider's theory. *The Psychological Review* 63: 277–93. [CrossRef]
- Coleman, James S. 1988. Social capital in the creation of human capital. *The American Journal of Sociology* 94: S95–S120. [CrossRef]
- Descormiers, Karine, and Carlo Morselli. 2011. Alliances, conflicts, and contradictions in Montreal's street gang landscape. *International Criminal Justice Review* 21: 297–314. [CrossRef]
- Ericksen, Eugene P., and William L. Yancey. 1980. *Class, Sector and Income Determination*, Temple University: unpublished paper.
- Falcone, Giovanni, and Marcelle Padovani. 1991. *Cose di Cosa Nostra*. Milano: Rizzoli.
- Fink, Stephen L., Joel Beak, and Kenneth Taddeo. 1971. Organizational crisis and change. *The Journal of Applied Behavioral Science* 7: 15–37. [CrossRef]
- Freeman, Linton C. 1977. A set of measures of centrality based on betweenness. *Sociometry* 40: 35–41. [CrossRef]
- Granovetter, Mark S. 1973. The strength of weak ties. *American Journal of Sociology* 78: 1360–80. [CrossRef]
- Hamblin, Robert L. 1958. Group integration during a crisis. *Human Relations* 11: 67–76. [CrossRef]
- Hanneman, Robert A., and Mark Riddle. 2005. *Introduction to Social Network Methods*. Riverside: University of California, Available online: <http://faculty.ucr.edu/~hanneman/> (accessed on 28 October 2020).
- Heider, Fritz. 1946. Attitudes and cognitive organization. *The Journal of Psychology Interdisciplinary and Applied* 21: 107–12. [CrossRef]
- Hossain, Liaquat, Shahriar T. Murshed, and Shahadat Uddin. 2013. Communication network dynamics during organizational crisis. *Journal of Informetrics* 7: 16–35. [CrossRef]
- Krackhardt, David. 1992. The strength of strong ties: The importance of philos in organizations. *Networks and Organizations: Structure, Form and Action* 5: 216–39. [CrossRef]

- Krackhardt, David. 1999. The ties that torture: Simmelian tie analysis in organizations. *Research in the Sociology of Organizations* 16: 183–210. [\[CrossRef\]](#)
- Langton, Jerry. 2013. *The Notorious Bacon Brothers: Inside Gang Warfare on Vancouver Streets*. Mississauga: Wiley.
- Lanzetta, John T. 1955. Group behavior under stress. *Human Relations* 8: 29–52. [\[CrossRef\]](#)
- Lewis, Kevin, and Andrea V. Papachristos. 2020. Rules of the game: Exponential random graph models of a gang homicide network. *Social Forces* 98: 1829–58. [\[CrossRef\]](#)
- Lin, Nan, Paul W. Dayton, and Peter Greenwald. 1978. Analyzing the instrumental use of relations in the context of social structure. *Sociological Methods & Research* 7: 149–66. [\[CrossRef\]](#)
- Malm, Aili, and Gisela Bichler. 2011. Networks of collaborating criminals: Assessing the structural vulnerability of drug markets. *Journal of Research in Crime and Delinquency* 4: 271–97. [\[CrossRef\]](#)
- Malm, Aili, Martin Bouchard, Tom Decorte, Marieke Vlaemyck, and Marije Wouters. 2017. More structural holes, more risks? Network structure and risk perceptions among marijuana growers. *Social Networks* 51: 127–34. [\[CrossRef\]](#)
- Massari, Monica, and Vittorio Martone. 2019. *Mafia violence: Political, Symbolic, and Economic Forms of Violence in Camorra Clans*. New York: Routledge. [\[CrossRef\]](#)
- McCuish, Evan C., Martin Bouchard, and Raymond R. Corrado. 2015. The search for suitable homicide co-offenders among gang members. *Journal of Contemporary Criminal Justice* 31: 319–36. [\[CrossRef\]](#)
- McPherson, Miller, Linn Smith-Lovin, and James M. Cook. 2001. Birds of a feather: Homophily in social networks. *Annual Review of Sociology* 27: 415–44. [\[CrossRef\]](#)
- Mellahi, Kamel, and Adrian Wilkinson. 2004. Organizational failure: A critique of recent research and a proposed integrative framework. *International Journal of Management Reviews* 5–6: 21–41. [\[CrossRef\]](#)
- Morselli, Carlo. 2009. *Inside Criminal Networks*. New York: Springer.
- Morselli, Carlo, and Katia Petit. 2007. Law-enforcement disruption of a drug importation network. *Global Crime* 8: 109–30. [\[CrossRef\]](#)
- Mulder, Mauk, Jan R. Ritsema Van Eck, and Rendel D. de Jong. 1971. An organization in crisis and non-crisis situations. *Human Relations* 24: 19–41. [\[CrossRef\]](#)
- Natarajan, Mangai. 2006. Understanding the structure of a large heroin distribution network: A quantitative analysis of qualitative data. *Journal of Quantitative Criminology* 22: 171–92. [\[CrossRef\]](#)
- Ouellet, Marie, and Martin Bouchard. 2018. The 40 members of the Toronto 18: Group boundaries and the analysis of illicit networks. *Deviant Behavior* 39: 1467–82. [\[CrossRef\]](#)
- Ouellet, Marie, Martin Bouchard, and Mackenzie Hart. 2017. Criminal collaboration and risk: The drivers of Al Qaeda's network structure before and after 9/11. *Social Networks* 51: 171–77. [\[CrossRef\]](#)
- Ouellet, Marie, Martin Bouchard, and Yanic Charette. 2019. One gang dies, another gains? The network dynamics of criminal group persistence. *Criminology* 57: 5–33. [\[CrossRef\]](#)
- Paoli, Letizia. 2002. The paradoxes of organized crime. *Crime, Law and Social Change* 37: 51–97. [\[CrossRef\]](#)
- Paoli, Letizia. 2007. Mafia and organised crime in Italy: The unacknowledged successes of law enforcement. *West European Politics* 30: 854–80. [\[CrossRef\]](#)
- Paoli, Letizia. 2008a. *Mafia Brotherhoods: Organized Crime, Italian Style*. Oxford: Oxford University Press. [\[CrossRef\]](#)
- Paoli, Letizia. 2008b. The decline of the Italian mafia. In *Organized Crime: Culture, Markets and Policies*. Edited by Siegel Dina and Nelen Hans. Studies in Organized Crime vol. 7. New York: Springer. [\[CrossRef\]](#)
- Papachristos, Andrew V. 2009. Murder by structure: Dominance relations and the social structure of gang homicide. *American Journal of Sociology* 115: 74–128. [\[CrossRef\]](#)
- Papachristos, Andrew V., David M. Hureau, and Anthony A. Braga. 2013. The corner and the crew: The influence of geography and social networks on gang violence. *American Sociological Review* 78: 417–47. [\[CrossRef\]](#)
- Quinn, James F. 2001. Angels, bandidos, outlaws, and pagans: The evolution of organized crime among the big four 1% motorcycle clubs. *Deviant Behavior* 22: 379–99. [\[CrossRef\]](#)
- Rostami, Amir, and Hernan Mondani. 2015. The complexity of crime network data: A case study of its consequences for crime control and the study of networks. *PLoS ONE* 10: e0119309. [\[CrossRef\]](#)
- Shi, Xiaolin, Lada A Adamic, and Martin J. Strauss. 2007. Networks of strong ties. *Physica A: Statistical Mechanics and its Applications* 378: 33–47. [\[CrossRef\]](#)
- Simmel, Georg. 1989. *Sociologia*. Milano: Edizioni di Comunità.
- Stogdill, Ralph M. 1959. *Individual Behavior and Group Achievement: A Theory: The Experimental Evidence*. Oxford: Univer. Press.

- Tremblay, Pierre. 1993. Searching for suitable co-offenders. In *Routine Activity and Rational Choice: Advances in Criminological Theory*. Edited by Ronald V. Clarke and Marcus Felson. New Brunswick: Transaction, pp. 17–36.
- Tutzauer, Frank. 1985. Toward a theory of disintegration in communication networks. *Social Networks* 7: 263–85. [[CrossRef](#)]
- Uddin, Shahadat, Shahriar T. H. Murshed, and Liaquat Hossain. 2010. Towards a scale free network approach to study organizational communication network. Paper presented at PACIS 2010—14th Pacific Asia Conference on Information Systems, Taipei, Taiwan, July 9–12.
- Vargas, Robert. 2014. Criminal group embeddedness and the adverse effects of arresting a gang's leader: A comparative case study. *Criminology* 52: 143–68. [[CrossRef](#)]
- von Lampe, Klaus, and Per Ole Johansen. 2004. Organized crime and trust: On the conceptualization and empirical relevance of trust in the context of criminal networks. *Global Crime* 6: 159–84. [[CrossRef](#)]

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



© 2020 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).