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Assessing the success factors of organized crime groups

Intelligence challenges for strategic thinking

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Abstract

Purpose – Expert assessment of organized crime (OC) group capabilities is often the basis for national threat assessments; it is rare, however, for variations in collective expert opinions of OC success factors to be systematically evaluated. The purpose of this paper is to examine the differences in how 150 criminal intelligence experts from a variety of national and organizational backgrounds sort and organize perceived attributes for OC group success.

Design/methodology/approach – The paper uses the Royal Canadian Mounted Police (RCMP) Sleipnir framework as a foundation for a Q-sort survey regarding the characteristics of OC group success. The survey was delivered to over 150 criminal intelligence specialists at a national conference in 2011. Descriptive statistics, seemingly unrelated regression, and biplots reveal different aspects of survey responses.

Findings – Results show that perceptions of the ingredients for OC group success both vary by nationality and by analysts' level within the hierarchy of the law enforcement structure (local, state, national). These differences are marked; particular characteristics are viewed as differentially important for the perceived success of OC groups. Furthermore, the results suggest that there are shared and structured differences in perceptions of OC group success characteristics.

Research limitations/implications – The survey has identified distinct differences between the characteristics for OC group's success perceived by analysts in the USA, Canada, and beyond. Furthermore, the organizational level of the analyst (local, state, national) shapes the perceptions of success factors. It is possible variations identified merely reflect differentials in training and experience, i.e. different organizational perceptions of the same problem. That aside, the patterning of results seem likely to be based to some degree on external factors linked to OC group operations, and not just on individual characteristics of the surveyed intelligence professionals.

Practical implications – The current research raises a number of questions regarding the confidence that should be placed in OC group assessments. The research has highlighted areas of professional dissonance that were not apparent from the RCMP Sleipnir research alone. Causes of the dissonance in assessments, and connections of these variations to both intelligence analysts' experience, training, and organizational ethos; and to OC group capabilities, seem deserving of additional attention.

Originality/value – Expert intelligence analyst interpretation of OC group capability is central to most national risk and threat assessments, yet the assessment processes themselves are rarely examined. This is a unique survey of over 150 intelligence personnel that highlights significant differences in perceptions of OC groups, differences that raise questions about how the authors evaluate the OC threat.

Keywords Intelligence-led policing, Organized crime, Threat assessment

Paper type Research paper

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Intelligence, coordination, and national strategy

For more than a decade, there has been a shift in policing among the industrialized nations. Several factors have moved police services toward an intelligence-led, data-driven approach to risk mitigation and operational decision making. These factors include the perceived failures of the community policing model (Deukmedjian and de Lint, 2007), the ever-growing gap between demands for police services and available resources (Flood, 2004), the continued expansion of information technology (Ericson and Haggerty, 1997) and the fallout from the terrorist attacks of 9/11 (Carter and Carter, 2009). In many places the police have moved from reactive responders to proactive risk managers of a security environment, emerging as "knowledge workers" (Brodeur and Dupont, 2006), integrating the "old knowledge" of policing, such as criminal informants and information gleaned from suspect interviews, with the "new knowledge" of policing, crime analysis, and the surveillance of national databases (Ratcliffe, 2008b).

Given the top-down nature of intelligence-led policing (Ratcliffe, 2008a), some of the enthusiasm for the development of intelligence-led decision making from national governments may have stemmed from the potential to integrate national priorities into the local public safety setting. Numerous national intelligence models are designed with this process in mind, seeking to offer local police a mechanism not only to identify and highlight local issues, but to do so hand-in-hand with central governments' priorities. Walsh's (2011) review of various national intelligence models provides some supporting evidence and identifies some commonalities. The Australian Organised Crime Strategic Framework is designed to "articulate priority areas for all territory, state and federal agencies to guide their strategic and operational planning" (p. 125). The Canadian integrated response to organized crime (OC) not only promotes community-wide intelligence-led policing approaches, but also national and provincial operational coordination. The New Zealand Police Intelligence Framework includes a National Tasking and Coordination Group, chaired by a deputy commissioner, to "set and agree national priorities" (Walsh, 2011, p. 119). Finally, the UK National Intelligence Model, the precursor of these models, has three distinct levels to address local, regional and national priorities, and anticipates that priorities at the national domain will percolate down to other levels (Walsh, 2011; Ratcliffe, 2008a; Flood and Gaspar, 2009). As Flood and Gaspar note, "threat assessments at the regional level are designed to support the setting of regional control strategies that take into account specifically regional priorities but also *incorporate the regional and local implications of the national interagency strategies on serious and organised crime*" (Flood and Gaspar, 2009, p. 61, emphasis added).

A notable exception here is the American context, where the disorganized and fragmented nature of the federal, state, tribal, and local policing situation mitigates attempts to significantly implement national crime prevention strategies. That said, the fusion center concept is an attempt to counteract this trend so that fusion centers can "become collaborative information-sharing environments across Federal, state and local levels" which aim to influence decision making (Guidetti, 2008, p. 27). There is thus an implicit context to the establishment of fusion centers designed to mitigate risk and improve decision support by making each level more aware of intelligence at the other levels (see e.g. DHS/DOJ, 2009; Johnson and Dorn, 2008; Rollins, 2008).

One particular challenge is the integration into a local policing plan of priorities determined at a different level. These types of questions become important in an increasingly globalized world where changes to the operating environments of OC

groups in remote, foreign locations can have broader implications and ramifications domestically. An example of this can be seen with the heroin shortage in Sydney, Australia that started in December 2000. It was suspected to have been caused by, among other things, a drought in the opium poppy areas of Burma (Weatherburn *et al.*, 2001). Therefore, given a hierarchical system such as the three levels of the UK NIM, or the less structured US Federal/State/local arrangement, how easy is it for intelligence analysts and operational commanders at the local level to appreciate and incorporate priorities determined on the national stage? Do their perceptions of the threat from OC gel with the perceptions of analysts housed within agencies with a national role? Organizational structure affects abilities to adopt strategic priorities (Gottschalk and Gudmundsen, 2010). The organizational need of police departments to function as relatively autonomous units but within hierarchical albeit loosely coupled structures makes it challenging to adopt coherent OC strategies that can resonate at all levels of the policing environment.

The overarching problem examined here is policing strategy toward OC. If a coordinated strategy is to be implemented across all strata of the policing environment, then a need for communication and a shared sense of the crime problem are both fundamental. In their examination of 12 companies over the course of a decade, Beer and Eisenstat identified a number of "silent killers" of strategy implementation, and included in this list were "unclear strategy and conflicting priorities," "poor vertical communication," and "poor coordination across functions, businesses or borders" (Beer and Eisenstat, 2000)[1]. Within the law enforcement domain, poor communication and conflicting priorities can occur if local law enforcement and analysts have different perceptions of their crime problem than their counterparts at the state/regional or federal/national levels. Unfortunately, little research addresses whether these problems exist in the new intelligence-led policing domain[2]. In other words, there is a knowledge gap: it is unclear if analysts perceive the dimensions of the OC problem at the national level differently than their colleagues at the regional or local levels.

The current study makes a contribution to closing this gap by examining the perceptions of OC gang capabilities using data from a survey of intelligence officers at the local, regional, and national levels. Differences in their perceptions of what constitutes the characteristics of successful gangs are illuminating and likely indicative of different priorities for police in the hierarchical system, as well as of the constraints of observing the problem through a particular lens. OC research suffers a number of particular challenges: a scarcity of viable crime and victimization data, restrictive laws and policing cultures that hamper intelligence flow, and an absence of standardized methodologies (Tusikov, 2012). With reference to the last issues, this study therefore also compares two methodologies, the Q-sort survey method in this study, with results from the Royal Canadian Mounted Police (RCMP) Sleipnir approach.

The current study

This study sought to compare perceptions of OC group success across different national and organizational levels of law enforcement intelligence. Definitions of OC are notoriously varied (Finckenauer, 2005); however, for the purposes of this paper we lean on Albanese's (2000) meta-analysis of definitions from which he broadly argued "Organized crime is a continuing criminal enterprise that rationally works to profit from illicit activities" (p. 411). He goes on to note that "its continuing existence is maintained through the use of force, threats, monopoly control, and/or the corruption of public officials." The medium chosen for this research was a variant of

the Sleipnir assessment, an OC groups' capability measurement matrix developed by the RCMP. The original methodology for Sleipnir was adapted for the purposes of this study; a Q-sort methodology was adopted and administered during an international meeting of intelligence analysts coordinated by the International Association of Law Enforcement Intelligence Analysts (IALEIA) and the Association of Law Enforcement Intelligence Units (LEIU). The following section describes these items in detail.

Sleipnir

Sleipnir is an OC groups' capability matrix developed by the RCMP, and designed to measure the relative threats posed by OC groups (Tusikov and Fahlman, 2009; RCMP, 2010). Sleipnir is but one of a number of analytical tools used by law enforcement to identify groups that pose the most significant harm to society. For example, the UK Metropolitan Police use a Criminal Network Harm Assessment Matrix, which itself was developed in part from an abbreviated Sleipnir methodology (Tusikov, 2012).

Sleipnir (and the survey work performed in this paper) can be categorized as exploratory analysis tools that "provide to the analyst a range of ways of viewing information and, as the name suggests, exploring the issues beyond what is immediately apparent. [...] These tools can be used to develop key findings, articulate options to decision-makers, and decide the priority level of different issues" (Heldon, 2009, p. 124). The Sleipnir technique was developed to improve strategic priority setting by providing a reliable, objective, expertise-based method to rank-order OC groups in terms of their relative capabilities and weaknesses. It is a structured analysis technique which incorporates expert judgments from intelligence analysts across Canada collected through a rigorous research process. The technique consists of a set of attributes, each of which is defined and weighted, and each of which has five defined values: high, medium, low, nil, and unknown. The attributes are the most important qualities for a successful and resilient OC group, as identified, revised, and weighted by the experts consulted. The definitions of the attributes and their values ensure the reliability of the technique, and were edited and ratified by the experts consulted.

The original version of the Sleipnir technique for OC used 19 attributes. The current version, used in this study, has been focussed down to 12. The research and development of the current version included a comprehensive statistical analysis of Sleipnir profiles in several Criminal Intelligence Service Canada national threat assessments. The research also included qualitative analysis of issues in the interpretation, application, and observation of these attributes over the course of ten years use of the technique in Canada and other countries.

The process by which to ratify, rank, and edit the attributes and values for the current version of Sleipnir was to hold a series of focus groups across Canada. The participants were experienced intelligence analysts from a number of Canadian agencies responsible for local, provincial, and national law enforcement. Each focus group took about three hours, including discussion and debate about the attributes, values, and their relative importance. Each focus group completed three tasks:

(1) suggest and agree to any necessary changes to the attribute definitions, to ensure clarity and maximize reliability of the technique;

(2) suggest and agree to any necessary changes to the value definitions for each attribute, also to ensure reliability; and

(3) develop an ordering of all the attributes based on pairwise comparisons of all possible pairs, facilitated by Expert Choice (EC11) software, a participant-friendly implementation of the analytic hierarchy process which converted the expert judgments from Likert scales into numerical weights of the attributes' relative importance.

In order to ensure the technique would identify the qualities of the most successful OC groups, the expert focus groups were framed as a thought experiment. The hypothetical premise given the participants was: if there is a stock market which lists OC groups and you must invest your pension contributions in one group, what qualities would you look for in the group which would be the most profitable and the most resilient to competition and efforts at suppression?

These focus groups produced results with high consistency between different groups of participants. This included not only the focus groups held across Canada with participants from all levels of law enforcement, but also focus groups run in the Netherlands, Denmark, and the Czech Republic by the same research team. The 12 OC group characteristics assessed, along with a description of each, can be found in the appendix to this paper (RCMP, 2010).

Q-sort and the 2011 IALEIA/LEIU conference

Although the methodology undertaken by the RCMP was appropriate for their national priority needs, the combination of focus groups and exhaustive pairwise comparisons did not lend itself to the environment that brought intelligence analysts together at the 2011 IALEIA/LEIU annual training conference in Nashville, TN. Pairwise comparisons, as conducted by the RCMP, would require a questionnaire of $n(n-1)/2$ questions, i.e. 66 individual responses (see Torgerson, 1958, p. 167). Mail-out surveys or online surveys have historically low-response rates, so it was determined that we would take advantage of the opportunity created by the first author on this paper having a speaking engagement at the conference.

A quicker and easier alternative would be for each respondent to rate each of the 12 characteristics on a Likert-type scale; this approach, however, could allow every characteristic to be ranked equally. For example, if asked how well a characteristic contributes to OC gang success, it is possible for a respondent to rank every characteristic "extremely well." Both the potential lack of variance in the results along with potentially idiosyncratic scoring patterns would hamper interpretation.

A Q-sort methodology was therefore adopted. The Q-sort, or Q method, has been used in such diverse fields as political science (Brown, 1980), perspectives on priorities for recreational planning (Ward, 2009), and public flood management priorities (Raadgever *et al.*, 2008). Respondents may be asked to conform their sorting of items to a particular distribution (Dawis, 1987), and the method is considered suitable when researching subjective experiences, beliefs, and perspectives (Shinebourne, 2009).

One typical Q-sort methodology presents a set of statements or characteristics to a participant who then sorts the items in reference to a particular matter. For example, a student might be given a range of statements regarding personal traits, and then asked to rank the statements according to an instruction, such as "most like what I perceive are the characteristics of a criminal." The respondent may be asked to conform his/her sorted responses to a quasi-normal distribution (Ward, 2009). In other words, the statements are ranked according to strength of rater agreement. As a result,

individual and cumulative results have a mean of zero, with an equal number of responses above and below a mean, tapering at the extremes. The method ensures variability in the resulting scores and may diminish response bias (Cross, 2005).

In this study, the distribution of the response matrix was structured by six levels of importance, where only one gang capability characteristic could be ranked as the most important (value = +3) by a respondent. Each respondent also could select only one attribute as the least important (value = −3). Each respondent was allowed to place two characteristics at the second level of importance (+2), three at the third level of importance (+1), and so forth. The overall distribution (with number of responses permitted in parenthesis) was as follows: +3(1), +2(2), +1(3), −1(3), −2(2), −3(1). This resulted in a quasi-normal distribution (as shown in Table I).

The survey instrument was distributed at the 2011 IALEIA/LEIU international annual training conference held in Nashville, TN, during a 90 minute session on strategic analysis. The survey instrument consisted of two pages. The first listed the 12 characteristics and matched each with its exact description in the Sleipnir documentation. The instrument was made available to everyone entering the session and was available to read prior to, and during, the training session. About half-way through the session, the presenter described the Sleipnir methodology and the Q-sort variation explained in the preceding paragraphs. A second page – the Q-sort survey form – was distributed at this time, and participants were invited to participate in the survey. It was made clear that participation was voluntary and that no identifying characteristics would be recorded. After about ten to 15 minutes, the formal presentation on strategic analysis continued. The forms were collected at the end of the session. The administration was repeated on a second day with a new group of participants.

Descriptive statistics

In total, 196 people signed up for the two sessions, and a total of 163 attendees completed surveys. Six respondents entered the same gang capability characteristic more than once in the survey forms, and these cases were removed by listwise deletion. Descriptive statistics for the remaining 157 records are shown in Table II.

+3			
+2			
+1			
−1			
−2			
−3			

Table I.
Example response matrix for 12 responses structured for a quasi-normal distribution

Agency type	*n*	%	Years in intelligence role	*n*	%	Country	*n*	%
Local/municipal	63	40.1	Less than 2	35	22.3	Not North American	13	8.3
State/regional	35	22.3	2-5	50	31.8	American	120	76.4
Federal/national	42	26.8	6-10	33	21.0	Canadian	20	12.7
Other	12	7.6	More than 10	34	21.7	Missing	4	2.5
Missing	5	3.2	Missing	5	3.2			

Table II.
Descriptives of agency type, years in intelligence role, and whether from the USA or Canada

Of the respondents who marked they were not from North America and indicated a location, three were Brazilians, two from the Caribbean, one from England, one from Mexico, and one from Nigeria. In total, 51 (32.5 percent) respondents were sworn officers, and 92 (58.6 percent) were unsworn in a civilian role (14 missing responses, 8.9 percent). We also asked about their role, with 90 (57.3 percent) indicating they were an analyst, 30 (19.1 percent) an investigator, 26 (16.6 percent) in some other capacity, with 11 (7 percent) missing responses. For the 26 respondents in the "other" category, we provided a free text field to explain, and the majority of these respondents were in management positions, such as "supervisor" or "manager."

We asked survey respondents to indicate the most significant problem they faced in their jurisdiction (Table III). Drug trafficking clearly dominated the responses, with nearly half the surveyed people showing this to be the most significant challenge they faced. The category "other" was next with 21 percent of the responses. We did provide respondents with a free-text area to elaborate on "other." Answers (with *n* in parentheses) ranged across gangs and gang-related crime and violence (4), corruption (3), meth and meth labs (2), OC (2), loan sharking (1), robbery and burglary (1), gun trafficking (1), gambling (1), and fraud and financial crime (5). One respondent, clearly from a very challenging workplace, wrote "all."

Results

Location differences

Because of the composition of the conference attendees, we examined the responses first by whether the respondent was from the USA, Canada, or beyond. The mean scores for each of the 12 characteristics are shown in Table IV, with standard deviations in parentheses.

Table IV shows that for US respondents, OC group cohesion is on average believed to be the most important characteristic of group success, followed by group discipline and their capacity for violence. For Canadian analysts, the ability of OC groups to corrupt public officials was the dominant choice overall, with group cohesion and propensity for violence scoring second and third. For respondents from outside of North America, cohesion and corruption scored highly as well, with discipline as the third choice. Interestingly, violence, which ranked in the top three in both the USA and Canada, did not make it into the positive scoring number area for non-North American respondents (−0.46).

While the survey approach for the current study is different than the original focus group and exhaustive pairwise comparison analysis of the RCMP study, we can use the mean scores to establish an ordering of responses, and compare the ordering of the responses to the RCMP Sleipnir ordering. These rank orders are shown in Table V

Table III.
Most significant problem in respondent's jurisdiction

Most significant problem	*n*	%
Drug trafficking	75	47.8
Terrorism	15	9.6
Illegal immigration	2	1.3
Extortion	1	0.6
Smuggled goods	7	4.5
Other	33	21.0
Missing	24	15.3

Characteristic	USA Mean	USA SD	Canada Mean	Canada SD	Other Mean	Other SD
Cohesion	1.68	(1.572)	0.90	(1.861)	1.38	(1.895)
Collaboration	−0.33	(1.834)	0.10	(1.518)	−0.23	(1.964)
Corruption	−0.36	(1.786)	1.50	(2.090)	1.23	(1.641)
Discipline	1.02	(1.534)	−0.35	(1.843)	0.54	(1.761)
Diversification	−0.86	(1.672)	−1.05	(1.669)	−1.00	(1.472)
Infiltration	−0.19	(1.646)	0.40	(1.667)	0.31	(1.316)
Insulation	−0.10	(1.751)	−0.30	(1.261)	0.08	(1.498)
Intelligence use	0.18	(1.582)	0.00	(1.654)	0.08	(1.498)
Money laundering	−0.29	(1.536)	−0.15	(1.814)	0.38	(1.609)
Monopoly	−0.51	(1.730)	−1.05	(1.638)	−1.15	(1.772)
Scope	−0.97	(1.624)	−0.80	(1.765)	−1.15	(1.819)
Violence	0.72	(1.769)	0.80	(1.508)	−0.46	(2.025)
	$n = 120$		$n = 20$		$n = 13$	

Table IV.
Mean scores for each characteristic by respondent location

Ranking	USA	Canada	Other	Sleipnir
1	Cohesion	Corruption	Cohesion	Corruption
2	Discipline	Cohesion	Corruption	Violence
3	Violence	Violence	Discipline	Infiltration
4	Intelligence use	Infiltration	Money laundering	Money laundering
5	*Insulation*	Collaboration	Infiltration	Collaboration
6	*Infiltration*	Intelligence use	Intelligence use	Insulation
7	*Money laundering*	*Money laundering*	Insulation	Monopoly
8	*Collaboration*	*Insulation*	*Collaboration*	Scope
9	*Corruption*	*Discipline*	*Violence*	Intelligence use
10	*Monopoly*	*Scope*	*Diversification*	Diversification
11	*Diversification*	*Diversification*	*Scope*	Discipline
12	*Scope*	*Monopoly*	*Monopoly*	Cohesion

Table V.
Rank-ordered responses by region, compared to original Sleipnir ordering

where for the categories of USA, Canada, and "Other." Characteristics in italics indicate they were below zero in mean score, and therefore their average was in the negative half of the Q-sort table.

Table V indicated some interesting comparisons. Although cohesion scored highest for respondents from the USA, and other countries, and scored second for the 20 respondents from Canada, the Sleipnir process identified this as the least important characteristic in determining OC group success. Violence was scored highly in North America, including from the Sleipnir survey, but was in the negative part of the Q-sort for respondents from outside North America. OC group discipline was scored highly by analysts and investigators in the USA and other nations, but not by Canadian respondents.

Agency type

Another useful split within the data came from agency type. With 63 (40 percent) of the session attendees coming from local or municipal police agencies, 35 (22 percent) from state or regional entities, and 42 from national or federal agencies (27 percent), we were

in a position to examine if there were any structural differences based on agency type (Table VI).

Cohesion scored the highest across respondents from all agency types. Discipline was scored second by local/municipal respondents. It also was an important characteristic for the other groups, third in the ordering for state/regional respondents. The second highest scored characteristic for the state/regional group was money laundering; this was not scored in the positive part of the table for either of the other groups.

As before, these mean scores can establish an ordering of responses which can then be compared to the RCMP Sleipnir ordering. This is shown in Table VII. For current study respondents, characteristics in italics indicate attributes where the average score was in the negative half of the Q-sort table.

Table VII makes the stark point that OC group cohesion received the highest average score for respondents at all levels, even though as seen in Table VII last column, it was the least important characteristic from the Sleipnir process.

Characteristic	Local/municipal Mean	Local/municipal SD	State/regional Mean	State/regional SD	Federal/national Mean	Federal/national SD
Cohesion	1.73	(1.648)	1.49	(1.687)	1.19	(1.714)
Collaboration	−0.29	(1.670)	−0.46	(1.837)	−0.17	(1.886)
Corruption	−0.33	(1.849)	−0.09	(1.931)	0.76	(2.081)
Discipline	1.19	(1.575)	0.69	(1.711)	0.26	(1.668)
Diversification	−0.87	(1.621)	−1.00	(1.749)	−0.98	(1.615)
Infiltration	−0.30	(1.633)	0.06	(1.608)	0.29	(1.612)
Insulation	0.05	(1.621)	0.40	(1.769)	−0.48	(1.596)
Intelligence use	0.54	(1.533)	−0.46	(1.421)	0.10	(1.620)
Money laundering	−0.79	(1.381)	0.80	(1.368)	−0.07	(1.614)
Monopoly	−0.73	(1.706)	−0.51	(1.634)	−0.74	(1.754)
Scope	−0.90	(1.766)	−1.29	(1.447)	−0.67	(1.677)
Violence	0.71	(1.631)	0.37	(1.926)	0.50	(1.941)
	$n = 63$		$n = 35$		$n = 42$	

Table VI.
Mean scores for each characteristic by respondent agency type

Ranking	Local/municipal	State/regional	Federal/national	Sleipnir
1	Cohesion	Cohesion	Cohesion	Corruption
2	Discipline	Money laundering	Corruption	Violence
3	Violence	Discipline	Violence	Infiltration
4	Intelligence use	Insulation	Infiltration	Money laundering
5	Insulation	Violence	Discipline	Collaboration
6	*Collaboration*	Infiltration	Intelligence use	Insulation
7	*Infiltration*	*Corruption*	*Money laundering*	Monopoly
8	*Corruption*	*Collaboration*	*Collaboration*	Scope
9	*Monopoly*	*Intelligence use*	*Insulation*	Intelligence use
10	*Money laundering*	*Monopoly*	*Scope*	Diversification
11	*Diversification*	*Diversification*	*Monopoly*	Discipline
12	*Scope*	*Scope*	*Diversification*	Cohesion

Table VII.
Rank-ordered responses by agency type, compared to original Sleipnir ordering

Furthermore, discipline scored second highest for local/municipal analysts and investigators, but was next-to-least important in the Sleipnir survey.

Statistical analyses

Seemingly unrelated regression model

The preceding section suggests potentially significant differences in perceptions of relevance of OC group attributes to success at both the level of USA/Canada/other nation, and at the agency organizational level. In particular, inspection of these data suggests some marked differences in position in the importance ordering by agency type for four organization characteristics: money laundering, corruption, discipline, and intelligence use. To investigate whether personnel from different agencies did indeed view these characteristics differently, and whether these differences were the result of more than just random variation, a seemingly unrelated regression model was run with these four characteristics as outcomes (Wooldridge, 2002, pp. 143-146). This model allowed errors for all four characteristics to correlate with one another, and controlled for both years of experience in five year increments, and location in the USA ($=1$) vs elsewhere ($=0$). One dummy variable was constructed for respondents working in state or regional agencies, and another for respondents working in federal or national agencies. Limiting the analysis to the 140 out of 157 respondents affiliated with local, state, or federal agencies means that each of these latter two dummy variables contrasted respondents scoring 1 with respondents in local agencies. The model was estimated using maximum likelihood estimation, and generated robust standard errors. Because the four outcomes were analyzed as a system, the conventional α level ($p < 0.05$) can be used. The results are shown in Table VIII.

These models confirmed significant differences in relative importance for three of these characteristics, by agency type, controlling for location and experience. They also underscored the importance of location for two of them. Compared to those working in local or municipal agencies, those working in state or regional agencies thought money laundering was more important ($b = 18.7$, $p < 0.001$), and intelligence use was less important ($b = -11.5$, $p < 0.01$). Compared to those working in local or municipal agencies, those working in federal or national agencies viewed money laundering as more important ($b = 8.1$, $p < 0.05$), and organizational discipline as less important ($b = -8.4$; $p < 0.05$).

Working in the USA mattered. Those with a US agency viewed corruption ($b = -21.1$, $p < 0.001$) as less important and discipline as more important ($b = 10.3$, $p < 0.05$), compared with those affiliated with agencies beyond the USA.

Considering the above results broadly, they suggest some differences, by agency type, and by location, in the relative importance of some characteristics. This raises a related but even more general possibility about differences in views. Does type of agency, and US/non-US location of that agency, affect the perceived relationships among these attributes of criminal organizations? This possibility can be explored descriptively with biplots.

Biplots

The previous work for just four characteristics suggested location and agency type influenced mean perceived importance. But do respondents in different locations working with different agencies organize the perceived importance of these characteristics in contrasting ways? Biplots provide a descriptive analysis addressing this question. A separate biplot was constructed for each of the three agency

Outcome		b	SE	z	$p <$
Corruption	Years	3.158	1.780	1.77	ns
	State	2.001	4.728	0.42	ns
	Federal	7.813	4.600	1.7	ns
	USA	−21.079	4.832	−4.36	0.001
	Constant	66.991			
Discipline	Years	−2.279	1.535	−1.48	ns
	State	−4.244	4.076	−1.04	ns
	Federal	−8.366	3.966	−2.11	0.05
	USA	10.323	4.166	2.48	0.05
	Constant	70.366			
Intelligence	Years	−0.038	1.401	−0.03	ns
	State	−11.456	3.722	−3.08	0.01
	Federal	−4.969	3.621	−1.37	ns
	USA	0.413	3.804	0.11	ns
	Constant	65.944			
Money laundering	Years	−0.339	1.319	−0.26	ns
	State	18.733	3.502	5.35	0.001
	Federal	8.138	3.407	2.39	0.05
	USA	−3.870	3.579	−1.08	ns
	Constant	54.857			

Notes: Seemingly unrelated regression ($n = 140$) for four outcomes. Scores have been rescaled to create equal differences between scores ($-3 = 20/-2 = 36/-1 = 52/1 = 68/2 = 84/3 = 100$). Years: years in service, in five-year increments (1-4); State: 1 for state/regional position, 0 otherwise; Federal: 1 for federal/national position, 0 otherwise; USA: 1 for US employee, 0 otherwise. $R^2 = 0.19$ ($p < 0.001$) for corruption, 0.11 ($p < 0.01$) for discipline, 0.07 ($p < 0.05$) for intelligence, and 0.18 ($p < 0.001$) for money laundering. Breusch-Pagan test of independence of residuals: $\chi^2(6) = 10.81$, $p > 0.05$

Table VIII.
A seemingly unrelated regression model for four characteristics

types (local, state/regional, and federal/national). Contrasts across them indicate whether agency position shaped how respondents connected the importance of the different characteristics. Further, since results on mean differences suggested the importance of respondent location, a separate biplot was constructed for respondents working with US agencies and for those working with non-US agencies. Contrasting this pair of plots might suggest how location shaped perceived connections[3].

Each biplot examines the relationship between all 12 characteristics investigated. Each of the 12 characteristics is represented as an arrow. In these biplots, each variable is centered by the mean score of the respondent group displayed, and this is rescaled to (0, 0) in the plots. As Kohler and Luniak (2005, p. 209) point out, "The angle between the lines, or, to be more precise, the cosine of the angle between the lines, approximates the correlation between the variables they represent. The closer the angle is to 90, or 270 degrees, the smaller the correlation. An angle of 0 or 180 degrees reflects a correlation of 1 or −1, respectively." The more highly correlated two characteristics are, the more closely their arrows align. The length of the vector associated with each characteristic, shown as an arrow, reflects within-group variation, across respondents, in the relative importance assigned to the characteristic. If the vector is short, it means

that respondents depicted generally agreed on the relative importance of that characteristic. With biplots, as in principal components analysis or closely related factor analysis, "labeling" the axes depicted is to some degree subjective and speculative. Vectors which end at a more extreme position on a dimension contribute more strongly to defining that dimension.

Locational difference biplots

Scores from US agency respondents are shown in Figure 1, and those from non-US agencies in Figure 2. Comparing the plots shows points of both agreement and disagreement. Starting with points of agreement: in both groups, respondents differed considerably on the relative importance of both corruption and cohesion, as shown by the length of these vectors; further, each group saw these two characteristics in an either/or relationship. Those judging corruption as more important viewed cohesion as less important, and vice versa. This contrast, for both groups, contributed strongly to defining the first (horizontal) dimension. A second similarity was the contrasting importance of violence vs cohesion. In both groups of respondents, if the use of violence to achieve goals was viewed as more important, cohesion was viewed as less important, and vice versa.

Yet, these similarities were complemented by several discrepancies in how these two groups connected these characteristics. The use of or threat of violence is a case in point. There were several aspects of the two groups' discrepant views on violence. First, respondents from US agencies disagreed considerably on the relative importance of violence; its vector was among the longest in Figure 1. But respondents from non-US agencies disagreed far less about its relative importance, as shown by the much shorter vector for these respondents.

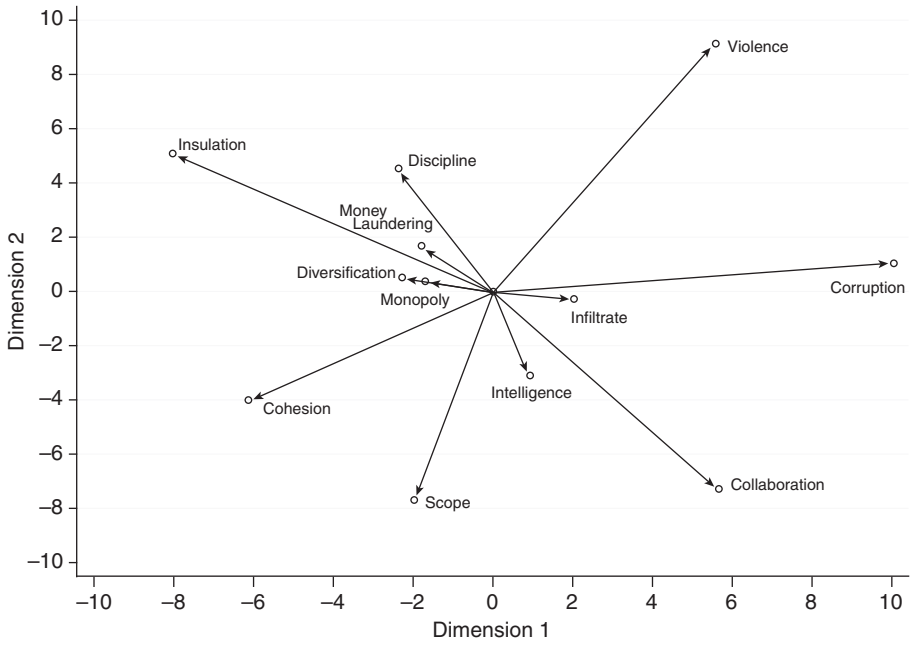

Figure 1.
US agency respondents' biplot

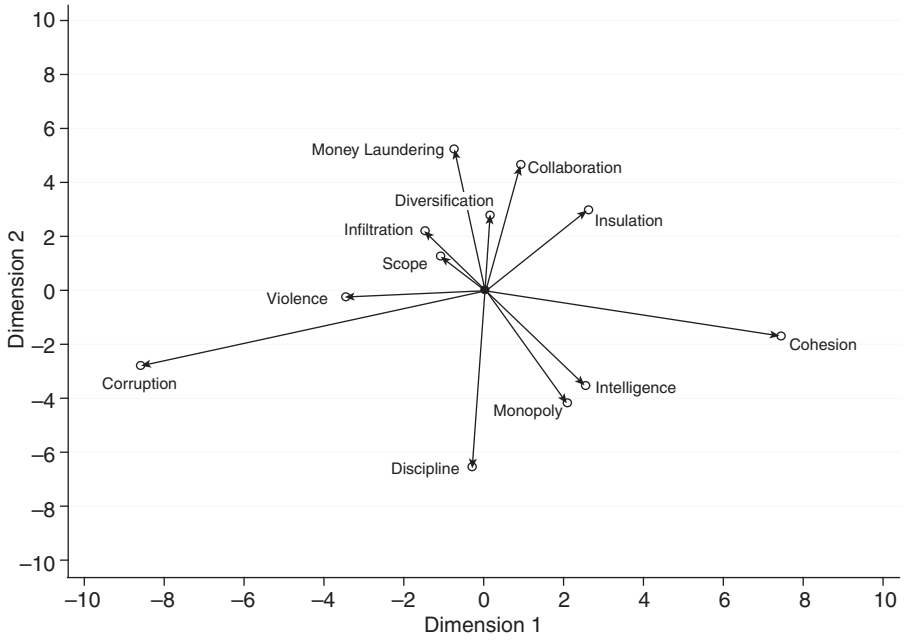

Figure 2.
Non-US agency respondents' biplot

In addition, non-US respondents perceived a much tighter relationship between violence and corruption, as shown by the close alignment of these two vectors, than did US respondents where the two vectors were much more weakly aligned. Stated differently, for the first group (non-USA), those rating violence as more important were also likely to rate corruption as more important while, for the second group (USA), this was less likely.

Looking to other characteristics, the two groups differed again on how much disagreement there was within each group. Non-US respondents compared to US respondents disagreed less on the relative importance of both scope and collaboration.

Finally, a third area of discrepancy was in how members of the two groups viewed the relationship between various pairs of characteristics. Here are just a few examples. First, those from non-US agencies were likely to assign similar importance to money laundering and collaboration, as shown by the two closely aligned vectors. By contrast, those from US agencies were likely to assign opposite importance to these two characteristics, as shown by the opposite direction of these two vectors. Second, US respondents closely tied the relative importance of intelligence and collaboration, while non-US respondents saw a negative correlation between the relative importance of these two characteristics. Third, US respondents closely tied the importance of discipline and insulation, while non-US respondents saw a negative relationship. Finally, non-US respondents saw a close link between the relative importance of intelligence use and monopoly, while US respondents saw a weak negative relationship.

In sum, comparing US and non-US respondents reveals some similarities in how they link these different characteristics of successful organizations. At the same time, however, it reveals sizable differences. There are differences in views about violence, the amount of within-group disagreement on relative importance of other

characteristics, and several ways the two groups differ in how they connect up the importance of various pairs of characteristics. Consideration now turns to similarities and differences if groups are contrasted by agency type.

Agency difference biplots

Biplots for responses from personnel assigned to local/municipal (Figure 3), state and regional (Figure 4), and federal/national agencies (Figure 5) are shown. Two similarities stood out when examining how the three different groups organized these characteristics. These were complemented, however, by numerous differences across groups.

One key similarity for all three groups was that there was considerable within-group disagreement on the relative importance of corruption, and this characteristic was one of the strongest contributors to defining the horizontal axis.

A second point of similarity, not surprising given the results contrasting US and non-US respondents, was that in all three groups there was a negative relationship between the relative importance of corruption and cohesion. In other words, if respondents scored either corruption or cohesion high, the other was often scored as low in importance. How strong the inverse relationship was, however, depended on the group; it appeared strongest for the state/regional respondents.

Turning to differences, and starting with variations in the amount of within-group disagreement, several contrasts appeared. First, state and federal respondents differed more on the relative importance of cohesion than did local respondents. Second, federal, as compared to state and local respondents, differed more on the relative importance of discipline. Third, local and state respondents disagreed more about the relative importance of insulation, compared to federal respondents.

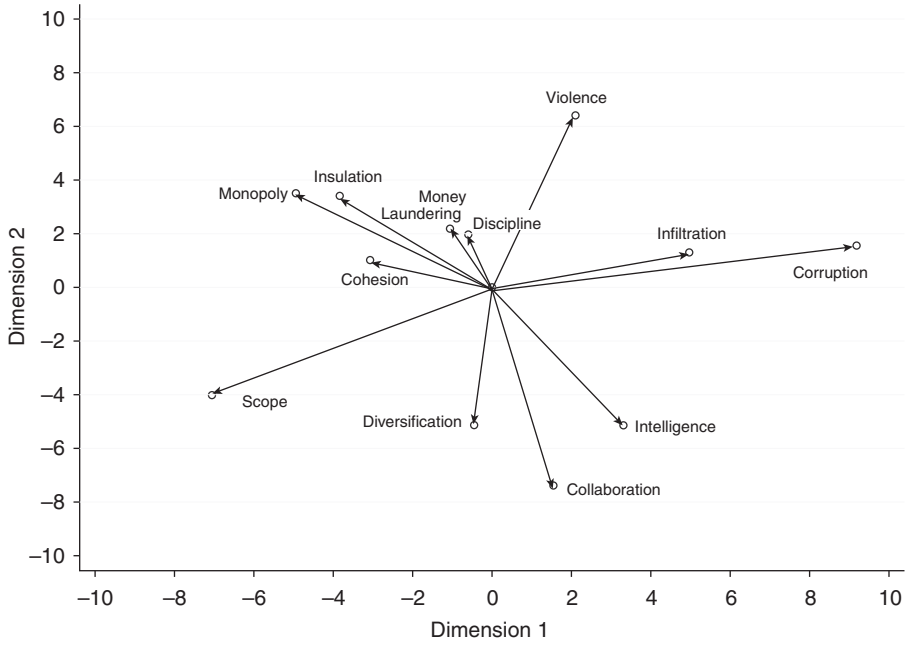

Figure 3.
Local/municipal respondents' biplot

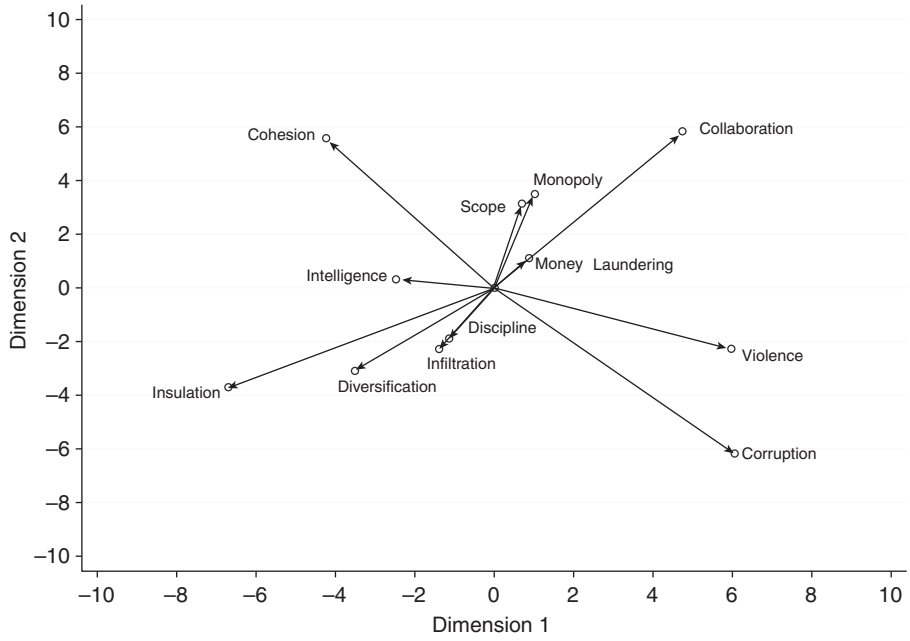

Figure 4.
State/regional respondents' biplot

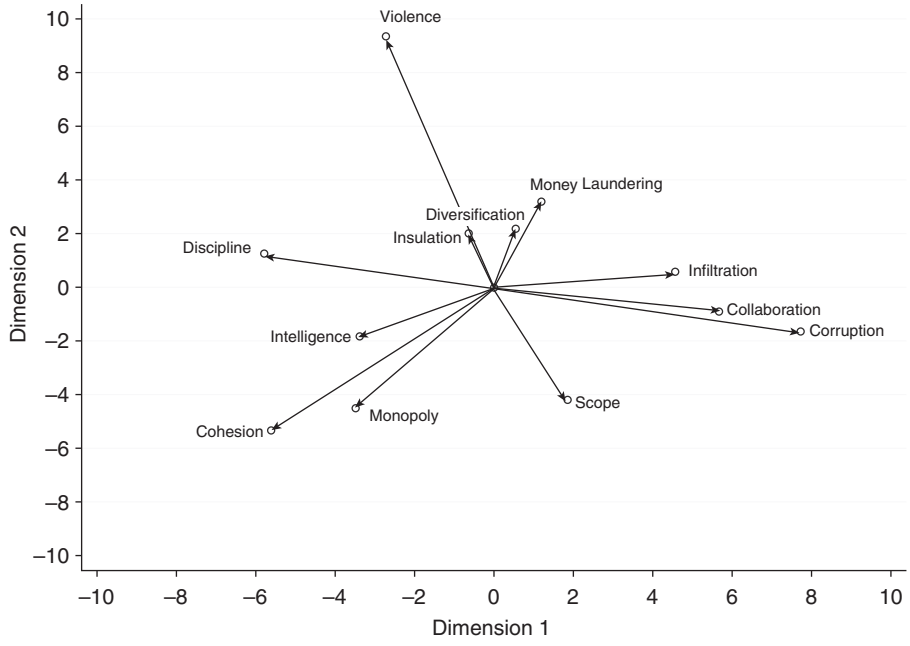

Figure 5.
Federal/national respondents' biplot

Finally, as seen when contrasting US vs non-US agency respondents, those working with different types of agencies connected pairs of characteristics in alternate ways. Here are two examples. First, the three groups differed with what they traded off against the importance of corruption. That is, what respondents rated as low (or high)

in relative importance if they rated corruption high (or low), depended on the group. For local/municipal respondents, it was the geographic scope of operations. For state/regional respondents, it was cohesion. And for national/federal respondents, it was discipline. Second, the money laundering-collaboration link was seen differently by the three groups. Local respondents assigning high importance to one were likely to assign low importance to the other, and vice versa. State/regional respondents gave similar importance ratings to the two characteristics. And federal/national respondents saw essentially no relationship between the relative importance of these two characteristics.

In sum, when contrasting respondents by agency type, as when contrasting US vs non-US respondents, similarities and differences both surfaced. The differences included contrasting amounts of disagreement within each group on the relative importance of particular characteristics, and disagreement across groups about the relationships between various pairs of characteristics. Roughly, it seemed that the ways respondents connected these different characteristics differed more by agency type than they did by US vs non-US location.

Discussion

This study found substantial national variation in how respondents, drawn from a conference of intelligence professionals, organized characteristics contributing to the success of OC groups. Differences surfaced in relative importance of specific attributes, amount of within-analyst group disagreement on relative importance, and links between pairs of attributes. The study also found where respondent agencies were situated in the organizational hierarchy of government had an extensive impact on perceptions of OC groups. These findings raise a number of considerations. The latter can be organized around whether the findings substantially reflect differences in the successful traits of OC groups, or whether they substantially reflect differences in training, exposure, or analytical approach.

Expanding on the first interpretation, perceived differences by location and position in the enforcement hierarchy may correspond substantially with attributes of OC entities investigated by different groups of analysts. For example, perhaps there are distinct differences between the characteristics for gang success in the USA vs in Canada (and beyond). Perhaps differences in factors such as national legislation, culture, criminal opportunities, and political environment shape the components of OC group success and analysts' different response patterns reflect some of these differences. If this is the case, it would reinforce the importance of a robust analytical capacity across all levels of the law enforcement operational environment. Different national characteristics of OC group success would highlight the importance of understanding and responding to the underlying differences in OC group behavior and orientation. It also would underscore the limited value of assuming universal characteristics of OC group success that can be transferred uncritically across locations. Finally, if this is so, then the findings question the universality of OC suppression and disruption techniques. It may be essential to tailor operational strategies to the particular structures of local OC groups, limiting the value of some regional, multinational concerted activities.

If survey results substantially reflect the situation on the ground at different structural levels of government, then they raise many questions. Perhaps agencies with different operational "scope" (Ratcliffe, 2007) come into contact with different types of OC groups. For example, groups with national or international levels of

operability are more likely to be investigated by national agencies such as the FBI and RCMP; analysts in these agencies may identify the type of success components appropriate for those groups. State and local investigators may spend more time working to disrupt more localized groups; success requirements for these OC groups may be different. If this is the case, the application of Sleipnir and associated techniques may help identify weaknesses that law enforcement can exploit in their attempts to disrupt, prevent, and reduce criminal behavior. More generally, following this interpretation, a case can be made for more research into the reasons for different perceptions of OC groups at different levels of law enforcement agencies, and the implications of these differences for OC control strategy. The Canadian application of intelligence-led policing has revealed some variation in priority setting preferences of local and national law enforcement agencies. This has led to some local adaptations of the Sleipnir technique as part of efforts to apply national priority-setting standards to local issues. The RCMP experience has been that municipal police tend to focus their priorities on highly visible violent groups, whereas national agencies are more likely to include low profile, entrenched criminal groups in their priorities. Reasons for this difference have related to the need to respond to local public concerns about street violence and differing capacities to investigate entrenched OC groups.

On the other hand, rather than largely reflecting operational differences in the different target groups assessed by different analysts, different patterns revealed here might largely reflect facets of differential training, experience, and dissimilar organizational perceptions of the same problem. Methodological features of the sorting task and underlying assumptions also could be relevant.

Perhaps variations in training and/or work experience were the dominant factors shaping the differences observed. An analysis of crime analysis units across America found that strategic analyses were rarely conducted, and when they were it was usually just for an annual report (O'Shea and Nicholls, 2003). It could be that the survey results are reflective of tasking respondents with questions that they have not previously considered in a structured manner. Variable experience at diverse levels of government (e.g. federal, state, and local), resulting in a differential ability to analyze and interpret the same information, could lead to different conclusions regarding the success coefficients of OC groups. This may explain the variations between the current results and those from Sleipnir. Canadian participants may well have had previous experience using Sleipnir, and were applying their knowledge of the method's detailed definitions and scoring values when responding to the survey.

Even when analysts have had the same training and experience, it may be that different perceptions of the crime problem arise either from seeing dissimilar intelligence at various operational levels of government, or seeing the outcomes and ramifications of criminal behavior at different structural and organizational levels of society, or both. For example, state-level analysts may see massive sums of money passing through the bank accounts of a drug trafficking group's leader, while local analysts see the devastation and violence caused by the group's activities in a local community. If this second, analyst location-based explanatory frame is relevant to the varying patterns observed, the question remains how to coordinate activities of multiple agencies addressing OC groups at varying structural levels of society when the agencies perceive different strengths and weaknesses in those groups based on agency location on the battlefield.

Finally, the methodology used here is different from the Sleipnir methodology, and each methodology has a different underlying model of judgments. The "law of

comparative judgment" (Torgerson, 1958, p. 159) underlies the repeated pairwise comparisons used in Sleipnir while the "law of categorical judgment" (Torgerson, 1958, p. 205) underlies the constrained sorting procedure used here. Additionally, the administration of each methodology differed. The original Sleipnir protocol provided the questions to a pre-selected group of Canadian intelligence experts, allowing three hours of discussion and debate to ensure consistent interpretations of the meaning and relative importance of the attributes. In contrast, the current protocol was administered in a short time to conference attendees at the 2011 IALEIA/LEIU meeting. Further, the current group (compared to original Sleipnir respondents) was a convenience sample and had more varied intelligence backgrounds including, probably, a greater range of analytical experience with OC groups.

Three potential threats to internal validity merit mention. Although different people attended both sessions, there is the possibility of some cross contamination from co-workers who attended the first session and then discussed the survey with colleagues who attended the second day, shaping the latter's responses. If these conversations happened, and if they were between analysts from the same country and from the same type of agency, and if attendees on the second day recalled and were influenced by those discussions, second-day attendees' responses may have contributed more strongly to between-group differences as a result. Although this is certainly a possible source of contamination, given the long chain of contingencies required it seems minimally plausible at best. A second potential concern is that because of conference costs, respondents were analysts and investigators from better funded agencies. This, however, is not a concern about the internal validity to the patterns observed here. It is a question of potential external validity which is always an empirical matter depending on what later data show, and cannot be determined a priori (Taylor, 1994, p. 164). Finally, the ideal administration of a Q-sort task methodology randomizes the order of presentation of options to respondents. The 12 characteristics were administered from an alphabetized list, and randomization was not possible.

Conclusion

Given the increasing discourse on risk (Tusikov, 2012) and how it factors into the need to triage police resources (Sheptycki, 2004), understanding the strengths and weaknesses of OC groups and how they can be exploited for the benefit of law enforcement is becoming a central activity of law enforcement intelligence operations. Disruption, prevention and reduction of serious and OC is a central tenet of intelligence-led policing (Ratcliffe, 2008a). Therefore a foundation of intelligence-led policing is the capacity of law enforcement intelligence to identify and recommend policies that would constrain the opportunities that crime groups exploit. This requires an accurate assessment of the success factors of OC groups, though some have questioned whether measuring and ranking harms associated with OC groups is even empirically feasible, and if it can be done in a way that usefully informs law enforcement decision making (Tusikov, 2012). Central to this discussion is a knowledge gap whereby it is unclear if analysts perceive the dimensions of the OC problem at the national level differently than their colleagues at the regional or local levels.

The findings in this paper would appear to suggest that there are shared and structured differences in perceptions of OC group success characteristics, signifying that these differences are based not just on individual characteristics of the surveyed intelligence professionals, but rather are caused by external factors. Where analysts

work (nationally and structurally) directly affects their perception of OC groups. Unfortunately, the research here is not able to determine whether the variations arose from extant differences in OC groups across different countries and operating at different functional levels that parallel levels of government response, or from issues with the way that OC intelligence analysis is conceptualized or conducted within the intelligence community. The experience of RCMP intelligence staff in running comprehensive Sleipnir focus groups internationally does point to the viability of shared, multi-agency approaches to assessing OC groups. How the robustness of that process translates to more local and regional levels of law enforcement operations is yet to be examined.

At the present time, the current research raises a number of questions regarding the confidence that should be placed in OC group assessments. These assessments, and subsequent choices of operational targets, may depend as much on the organizational structure of the body writing the assessment as on the particular behaviors of any crime group. There is therefore a need to review the mechanisms by which OC groups are selected for law enforcement attention, in light of the potential for differences to be injected into the process by factors unrelated to OC. Heldon (2009) points out that analysis is all about understanding issues and our environment, and this understanding can be enhanced by combining analytical tools. It may be that the Q-sort approach, its fundamentally different approach to judgment, and the resultant biplots have highlighted areas of professional dissonance that were not apparent from the Sleipnir research alone. At the least, the research here highlights a need for a better understanding of the analytical processes by which OC groups are understood and prioritized. It is clear that the mechanisms by which intelligence staff assess the characteristics of OC groups are worthy of further examination, especially as these intelligence assessments are increasingly tied to significant national policy decisions and the targeting of law enforcement resources.

Notes

1. The remaining three were "top-down or laissez-faire management style," "an ineffective senior management team," and "inadequate down-the-line leadership skills and development".
2. A notable exception, however, is the work of Sheptycki (2004) who identified a number of organizational pathologies that impacted on the intelligence environment that in turn could distort the "picture" of crime problems.
3. There are not enough cases to simultaneously examine the impacts of both agency type and location on how respondents organized the criminal organization characteristics.

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Appendix

Attribute	Definition
Cohesion	Strong bonds are fostered at both individual to individual, and individual to organization levels in order to create criminal solidarity and common protection. The bonds can be created through such factors as common backgrounds, blood relationships, financial relationships, length of association, and geographic origins. They can be instituted through rites of initiation and required criminal acts of loyalty
Collaboration	The extent of collaborative links between this and other organized crime groups
Corruption	The corruption of local public officials through the practices of illicit influence, exploitation of weakness and blackmail. Also the ability to place organized criminals or their associates into sensitive positions
Discipline	The practice of coercing obedience to hold the organization together. This includes the use of violence, intimidation and other sanctions or forms of coercion on group members and associates
Diversification	The extent to which the illicit activities of the group are diversified
Infiltration	The efforts to gain a foothold within legitimate private organizations and businesses to further criminal activities. This control or influence may be used for: money laundering, establishing a pretense of propriety, facilitating, protecting and concealing criminal enterprises, and/or for intelligence gathering
Insulation	The efforts to protect the main figures in the group from prosecution through the use of: subordinates, fronts, corruption, and/or other means
Intelligence use	The intelligence/counter-intelligence and counter-surveillance capabilities of organized criminals. Used to defend themselves against law enforcement and rival groups, and to identify new targets
Money laundering	The process of legitimizing cash or other assets obtained through illegal activities. Effective money laundering conceals the criminal origins and ownership of the funds, creates a legitimate explanation for the proceeds of crime and creates wealth over time
Monopoly	Control over one or more specific criminal activities within a geographic area of operations, with no tolerance for competition. This does not prevent partnerships of profitable convenience between or among organizations. Violence, intimidation and/or informing on competitors are common methods used to establish or maintain monopoly
Scope	The geographic sphere of operations and influence of the organized crime group
Violence	The use of violence, and intimidation through explicit or implicit threats of violence, against targets outside the group to further any organizational objective

Table AI.
Sleipnir characteristics and description

Source: RCMP (2010)

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