

Kinship, Family, and Exchange in a Labrador Inuit Community

**Kirk Dombrowski, Bilal Khan, Emily Channell, Joshua
Moses, Kate McLean, and Evan Misshula**

Abstract. Kinship, family, and household have received considerable attention in Inuit studies; this paper takes a comparative social networks approach to these issues. Here kinship connections are represented in network form as a composite of individual kinship dyads of descent, coparentage, or siblingship. The composite kinship network is then used as a standard of measure for the pair-wise distances of exchange/dependency dyads appearing in other social networks within the community (including the country-food distribution network, store-bought-food-sharing network, traditional-knowledge network, alcohol-co-use network, household-wellness networks, job-referrals network, and the housing network). This analysis allows us to gauge the role that kinship (of various distances, including household and family) plays in structuring exchanges across these various network domains. The data used here was collected in Nain, Labrador in January– June 2010. From 330 interviews, we extracted more than 4,900 exchanges and patterns of helping relationships among the 749 current adult residents of the community, and more than 10,000 kinship connections among a total of 1,687 individuals directly linked by descent, marriage or coparentage. The results of this analysis show that past emphasis on kin-oriented exchange in Inuit communities has mistakenly emphasized the nature of the exchange item (traditional versus store-bought (cash) economy) thereby missing important data on the nature of the exchange itself (reciprocal or one-way).

*Kirk Dombrowski, Department of Sociology, University of Nebraska-Lincoln
711 Oldfather Hall, Lincoln, NE 68588; kdombrowski2@unl.edu.*

*Bilal Khan, Math and Computer Science, John Jay College
524 West 59th St, New York, NY 10019; bkhan@jjay.cuny.edu.*

*Emily Channell, Social Networks Research Group, John Jay College
445 West 59th St, New York, NY 10019; echannell@gc.cuny.edu*

*Joshua Moses, Culture and Mental Health Research, 4333 Chemin de la Cote
Ste-Catherine, Montreal H3T 1E4; joshua.moses@mail.mcgill.ca*

*Kate McLean, Social Networks Research Group, John Jay College
445 West 59th St, New York, NY 10019; KMcLean@gc.cuny.edu*

*Evan Misshula, Social Networks Research Group, John Jay College
445 West 59th St, New York, NY 10019; emisshula@gc.cuny.edu*

Introduction

Between January and June, 2010, the Social Network Research Group of the City University of New York conducted a large “social network” study in Nain, Labrador, Canada. The project involved interviews with 330 adult residents of the community over 5 ½ months. The centerpiece of the research was a social-network survey in which adult residents of Nain were asked to name those individuals in the community from whom they regularly received help (or to whom they would turn if they found themselves in need of help) in eight network domains: country food; store-bought food; traditional knowledge; domestic violence and household wellness; alcohol co-use; youth support; housing; and jobs. Participants in the interviews were asked questions like:

- If you did not have any country food (wild meat or fish), who would most likely go to?
- Have you received any wild meat or fish from this person in the last year?
- How long ago?
- What and how much did you receive?
- Do you ever share back with that person?

Answers to these questions, including the names of those individuals who were given as sources of help, were coded for their network content and ethnographic data was extracted to contextualize these data.

From these individual interviews, full-scale sociograms of each network domain were created where information from the interview could be used to document concrete exchanges that had taken place in the last 12 months.¹ In addition to the network questionnaire, kinship connections were collected from 218 of our interviewees. Three kinds of kinship links were documented—descent (through one or two parents or adopted parent/s, labeled D-dyads), siblingship (labeled S-dyads), and coparentage (labeled M-dyads)—corresponding to the three most locally significant forms of “kinship” connection. As with the other networks, the “dyadic” kinship relationships were amalgamated into a community-wide network.² The D-, S-, and M-dyads resulted in the identification of an additional 914 people beyond the 749 network alters named in the network interviews, including children, many adults who were no longer residents in the community, and some kin relations who were deceased. These additional individuals were included in the kinship network despite their absence in the other networks because they often provided what would otherwise have been missing connections among contemporary individuals and households.³ In all, the full survey resulted in more than 10,000 total kinship connections and more than 4,900 connections in the various domains listed above, among 1,687 total distinct nodes.⁴ A diagram of the composite kin network is available in Figure 1.

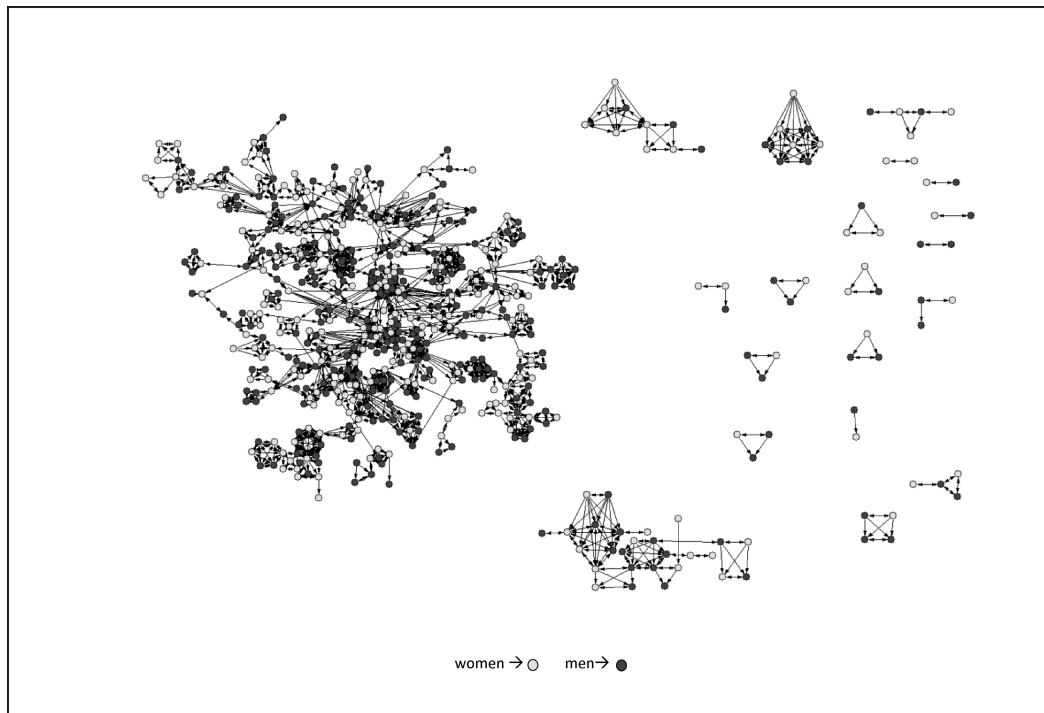


Figure 1. Composite Kinship Network. Drawn using Pajek, via Kamada-Kawai (free) algorithm; components shown separately.

While networks of exchange and dependency have inspired considerable thought and question among anthropologists working in the North, few formal network approaches of the sort shown here have been attempted.⁵ One exception is a recent article by Collings (2011). There he examines food exchanges among 14 men 35–50 years old in Ulukhaktok, located on Victoria Island, Northwest Territories, Canada, classifying each individual according to a primary economic strategy, and each exchange alter by one of four kinship categories—nuclear family, in-laws, collaterals, and distant collaterals. For reasons discussed below, these kinship groupings/categories do not apply in Nain, where relationships were not reckoned in these terms. What we later refer to as “natal household” corresponds roughly to Collings’ use of term “nuclear family” as a kin category, while our designation of “family”⁶ appears to overlap with both the “family,” “in-laws,” and “collaterals” described by Collings.⁷ Other differences apply as well. Where Collings’s major concern was with employment status and occupational concentrations, these variables were not included in the current analysis, making direct comparison with his result difficult (though see Dombrowski et al. 2013[b]).

Ethnographic Observations

Kinship studies have played a significant role in Inuit studies, mainly through notions of descent and the relatedness they create and how these relationships influence the movement of food and housing resources. Groups based at least in part on descent have been seen to play a major role in the organization of local communities in precontact times and the extension of political authority into the contact era (Graburn 1964; Nuttall 2000; for a history see Stevenson 1997). Historically lacking large corporate descent groups of the scale normally considered by descent theorists, nor locally articulated marriage preferences favored by alliance theorists, Inuit kinship remains relatively under-theorized (exceptions are early attempts by Damas [1963, 1972] and more current arguments by Trott [2005]). Even so, local systems have been described thoroughly (see Damas 1972; Nuttall 1992), and their strategic uses in past and current situations have been documented (Collings et al. 1998; Dahl 2000; Nuttall 2000; Kishigami 2000; Wenzel et al. 2000). The picture that emerges from such descriptions includes considerable ideological uniformity across a wide geographical area (Trott 2005) and apparent historical stability over the colonial era (Stevenson 1997; though contact and precontact forms remain open to considerable speculation, see McGhee 2007).⁸

Rather than kinship structures per se, researchers working in Inuit communities have often preferred to focus on “family” as an extended

bilateral and somewhat opportunistic kindred (Nuttall 1992, Searles 2002, Stern 2005), which at times can be seen as linking household groups and other times referring to a more general group of codescendants regardless of whether these individuals or their households continue to share or exchange (Collings et al. 1998; Damas 1972; Duhaime et al. 2002; Usher et al. 2003). The division between a natal-family group and Inuit uses of the term “family” have received considerable attention (Collings 2011; Stern 2005), often in association with questions about the appropriateness of household settlement strategies during the forced (and voluntary) settlement era of the 20th century (Tester and Kulchyski 1994). Whether current forms are in fact the product of colonial-era schemes or may instead reflect flexible precolonial-era forms that have retained their flexibility into the current era (Stern 2005), remains a point of debate. Such considerations are less important here, however, as the kinship practice discussed below reflects current usage only, regardless of origin.

Like other Inuit in the eastern Arctic, Labrador Inuit use the term “family” mainly to indicate a larger-than-household group—meaning an extended kin group based on codescent and, to a lesser degree, in-marriage—regardless of whether exchanges continue across households implicated in that grouping. In terms of relational priority, among contemporary Labrador Inuit in Nain there is a general tendency to emphasize relationships with siblings, parents, and children, with secondary importance awarded to grandparents and parent’s siblings, and tertiary importance to cousins, who often tend to be lumped with more distant relatives, similar to the traditional Inuit *ila* form described by Trott⁹ (though these terms are not used, as far as we could tell, in Nain).

We also found that in Labrador kinship connections beyond first cousins were recognized as roughly equivalent in importance and seldom distinguished from one another (i.e., little distinction was made between cousins, second cousins, or third cousins, or between parallel and cross cousins; again see Trott [2005] for contrasting findings). Likewise, while occasional relational attention is paid to nonhuman actors as kinship relations (in Ingold’s sense, as have been noted for Cree and other Canadian First Nations groups, see Ingold [1987, 2011]; see also Fienup-Riordan 1983; Stairs 1992), these relationships were not accorded the same status as relationships with people among residents of Nain. Naming newborn children for deceased members of the community is still practiced in Labrador, but the strict extension of kin relationship of the originally named person to the newborn is not practiced as it seems to be in other Inuit communities (Nuttall 1992, 2000). Likewise, adoption in Nain is not uncom-

mon, though it seems to vary in significance. It sometimes leads to complete separation with natal parents or household, while at other times various degrees of contact with natal family remains, particularly when a child is adopted by his or her own grandparents (Guemple 1972). We found no cases where adoption was intended to rejoin a given name (in a renaming instance) with a particular geographical region or family group as suggested by Trott (2005).

While Figure 1 is too dense for accurate visual inspection, one can easily see that a larger proportion of the adults in Nain are linked by some combination of S-, D-, and M-dyads, as evident in the large connected component in the top left portion of the illustration. This accords well with local testimony; we were regularly told: “I’m related to everyone in Nain.” One can also see, however, that many individuals remain outside of this main “component,” sharing kinship links with only a few individuals. One additional benefit of the network rendering of kinship (as it differs from conventional anthropological representations which favor descent over other types of relationship) is that the network form instead emphasizes dense clusters of siblings joined by marriage and descent linkages to other such clusters or single

individuals, structures not apparent in the tree-like structure of conventional diagrams, and one much closer to models of kinship relatedness discussed by Nain residents.

Kinship Distance

The primary concern of this analysis is to examine whether kinship and family connections play a role in structuring the other networks we examined. Past research in Inuit communities has argued that kinship plays an important role in organizing the sharing and distribution of country food, and our interviewees spoke frequently of the importance of family and its role in structuring their interactions with others.

One area of particular interest to anthropologists has been the role of kinship in understanding food distribution networks in Inuit communities. Many anthropologists have argued that kinship plays a critical role in the distribution of country foods in particular (Collings 1997, 2011; Condon et al. 1995, 1998; Damas 1972; Hovelsrud-Broda 2000; Hunt 2000; Kishigami 2000; Krech 1994; Langdon 1991; Nuttall 2000; Searles 2002; Wenzel 2000; Wenzel et al. 2000). Some have argued that this is not the case for store-bought food—that

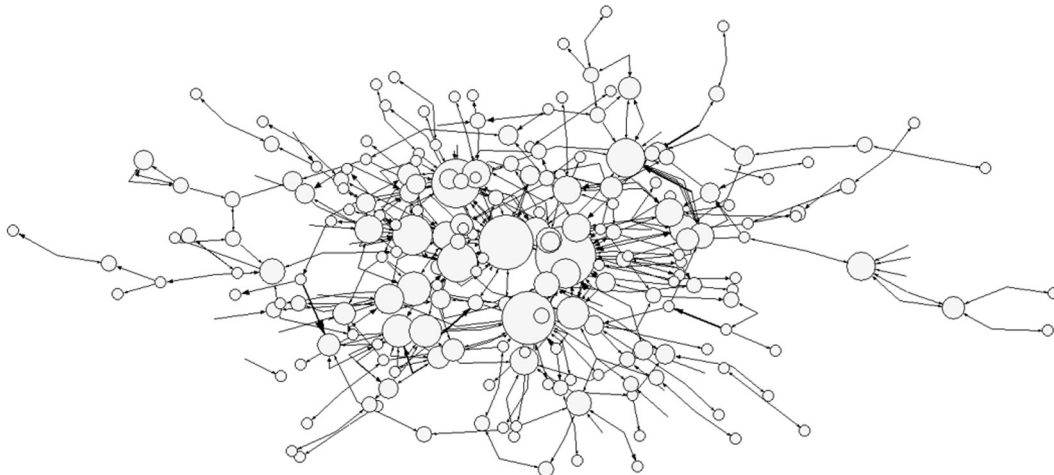


Figure 2. Country-food-network-node size proportional to number of incoming connections. Connections derived from answers to the questions: “If you did not have any country food (wild meats like caribou or other things like fish, birds, or berries), who would you go to? When was the last time you received any country food from this person? How many times in the last year have you received country food from this person?” Three hundred thirty interviews document 538 exchanges of food sufficient for at least one meal in the previous 12 months among 430 people. For purposes of analysis here, only those ties based on actual sharing events of substantial food (one meal for one person) in the last 12 months were used to construct the network. Hypothetical ties that had not been acted on were not included. In Figure 2, node size is drawn proportional to the number of incoming connections. In all of the networks, the tie-strength data was collected in the form of 1) inverse of months from most recent sharing event and 2) number of sharing events in the last 12 months. As below, tie strength was not an issue in this analysis because the kinship ties were all weighted equally, and each sharing pair in the other networks was analyzed in the kinship network regardless of the tie strength of that pair.

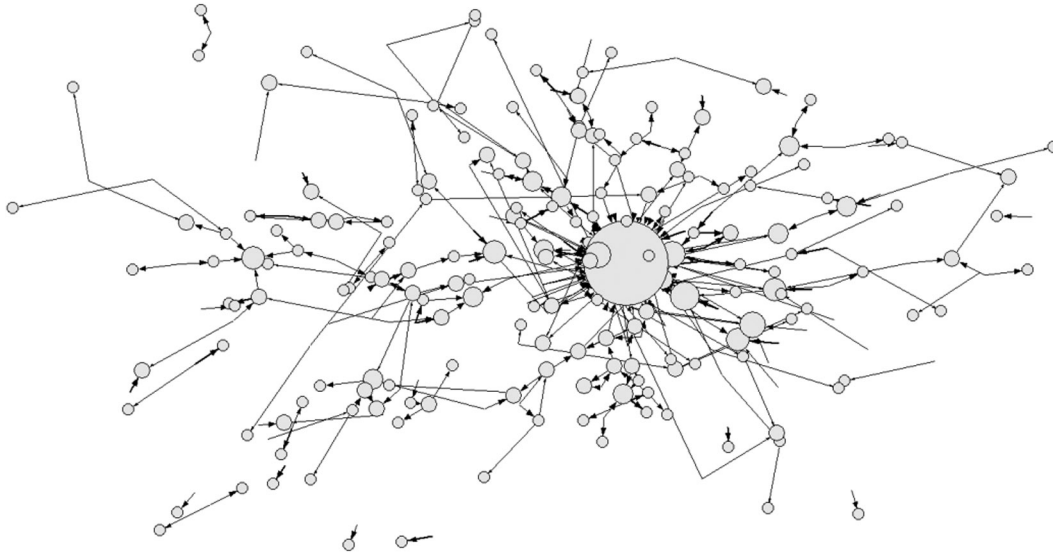


Figure 3. Store-bought-food sharing. Connections shown in answer to the following questions: “If you did not have any ‘store-bought food’ (basic things, like tea, sugar, or flour, or a whole meal), who would you go to? When was the last time you received food (other than country food) from this person? How many times in the last year have you received store-bought food from this person?” Node size is proportional to the number of incoming connections. Figure 3 shows 340 connections among 342 persons derived from over 500 actual sharing events. For purposes of analysis here, only those ties based on actual sharing events of substantial amounts of food (at least one meal for one adult person) in the last 12 months were used to construct the network. Hypothetical ties that had not been acted on or exchanges of small amounts of food were not included. We note that the single large node in the center is food pantry run by a local minister with no kinship connections in the community. This organization delivers food relief to community residents, mainly in the form of store-bought food. Interestingly, despite the fact that the largest node in the network is unrelated by kinship, store-bought-food distribution still appears among the networks most closely aligned with kinship connections.

for store-bought food, and many things involving the cash economy, family works quite differently than it did in the past and differently than it does now in the exchanges of traditional foods (Collings et al. 1998; Duhaime et al. 2002; Krech 1994; Tobey 2002; Sharma 2010; Stern 2005; Wenzel 2000). To resolve this question (at least locally), network surveys were performed in Nain that sought to document the actual circulation of both country foods (such as caribou, fish, berries, birds, and other forms of hunted or collected resources) and store-bought foods (such as flour, sugar, bread, cereal, meat, and other items obtained by cash payment). The results are presented in graphical form in Figures 2 and 3.

As seen in Figure 2, the sharing of country food in Nain varies widely across households, with very distinct network roles and positions (Dombrowski et al. 2012, 2013[b]). There are core members of the network who exchange heavily and frequently amongst themselves, and central roles in the network where individuals are the source of food for a large number of others, and there are those on the margins whose low number of connections and exclusion from the core leave

them on the edges and largely dependent on others for access to wild resources.

In Figure 3, one can see that store-bought food was exchanged differently, with no real central core and a wider distribution of roles. These findings lend support to the idea that these foods do move through the communities in different ways, each with their own rules and patterns.

The kinship network was much larger than either of these networks (see Fig. 1), and was composed of one very large central component of interrelated individuals as well as a number of small outer components not connected by any kin relations with the large central component. Given the size of the kinship network, one of our first questions was what role this large kinship network played in structuring the two food networks—the country-food network and the store-bought-food network. Beyond this, however, the same question can be applied more generally. That is, beyond food, it seems worthwhile to ask what role kinship plays in the other networks we collected, include household wellness, jobs, housing, traditional knowledge, and alcohol co-use. As with the food networks above, each of these networks was cre-

ated by amalgamating the dyadic connections from individual interviews, and, for our purposes here, restricted to those dyads that represented an actual sharing or aid event in the previous 12 months. Network statistics describing in outline form some of the characteristics of each network are provided in the table in endnote 1. Information on network data collection, including sampling strategy and sampling results are available in Dombrowski et al. (2013[a]).

The means for this comparison are as follows: in this analysis, we examine each direct link between network nodes (people) in each of the nonkinship networks and compare this with the number of network “steps” that separates the same two people—our interviewee and his or her network alter—in the kinship network. To show what we mean by network steps, suppose person “A” identified person “B” as someone from whom she received country food in the last year (a “country-food source”) during the interview. This means that A and B are one network step away from one another in the country-food sources network. The question then becomes: if they are one step away in the country food sources network, how “close” are they in the kinship network?

To answer this question, the total kinship network (shown in Fig. 1) is analyzed for how many connections it takes to get from A to B by the shortest possible network path, where all edges are considered undirected. In the example in Figure 4 (where B stands to A as A’s father’s-sister’s son) the network distance would be three, because there are three links between A and B. This analysis was undertaken for every pair of connected individuals in each of the nonkinship networks, such that we might learn how “far” (in kinship network distance) each person in each pair is from his or her network alter.¹⁰

We note that this method of establishing kinship distance corresponds in some ways to local reckoning of kinship distance. There was a distinct notion of “close” and “distant” kin, with parent-child, siblings, and marriage or coparentage seen as, in general, the closest kin. Many felt strong ties to grandparents (though not all) or to parents’ siblings, or to parents’ siblings’ children. Below we propose a formal rendering of these

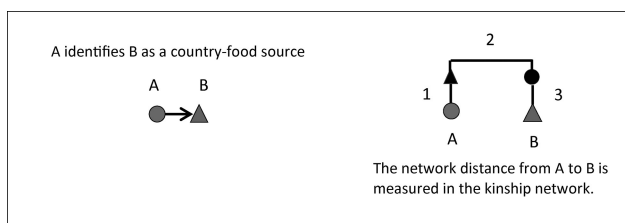


Figure 4. An example of measuring network distance.

two distinct groupings of kin according to kin distance, but note that this is an attempt to formalize a complex set of historical factors and that the formalization of breaks in the continuous chain of kinship relatedness bears less of a direct relationship to local reckoning than does the notion of kinship distance itself.

Kinship Distance in the Nain Networks

The first finding from this analysis was that not all of the network pairs in any of the networks could be connected in the kinship network. It turned out that in a large percentage of cases, network connections in the country-food network (and all of the other networks) linked people who were not related at all by marriage, descent, or extended kinship. This happened when network pairings in one of the exchange networks crossed over separate components in the Kinship Network. In Figure 1, 20 such network components can be seen. Even though the majority of adult residents in Nain can be found in the large central component, many of the network exchanges we learned about crossed over two of these components.

For those network pairs that were “reachable” (i.e., found in the same component of the kinship network), we found that the distance between networks alters varied from one step to ten steps. From this data we derived two statistics for each network:

- 1) the percentage of the total number of dyads (pairs) of connected individuals in each network that can be connected to one another in the kinship network by a path of any finite length (which we will label “reachable pairs” and identify as a percentage with the symbol β), and
- 2) the inverse of the kinship distance for each pair was calculated, such that a network dyad pair separated by one step in the kinship network had a value of 1, by 2 steps in the kinship network had a value $\frac{1}{2}$, by 3 steps in the kinship network had a value of $\frac{1}{3}$, etc. This measure has the virtue of giving those dyads that are “unreachable” in the kinship network a closeness value of 0. The average across all pairs in the network we label with the symbol μ , indicating the mean inverse number of kinship steps across all pairs.

As a final step, a composite of these two statistics was created by multiplying the percentage of reachable pairs by the mean distance of the kinship paths connecting them, giving equal weight to both statistics (i.e. $\beta\mu$).¹¹

Table 1. Percentage reachable pairs (β), mean inverse distance (μ), and combined ($\beta\mu$) by network.

Network	% Reachable Pairs (β)	Mean Inverse Distance (μ)	Combined ($\beta\mu$)
Store-bought-food partners [†]	80%	0.626	0.501
Country-food partners	79%	0.468	0.370
Housing assistance	63%	0.478	0.301
Country-food sources	70%	0.425	0.298
Traditional-knowledge sources	66%	0.427	0.282
Alcohol co-use	65%	0.409	0.266
Store-bought-food sources	58%	0.452	0.262
Male DV* assistance	45%	0.268	0.121
Youth assistance	44%	0.272	0.120
Female DV assistance	38%	0.252	0.096
Jobs assistance	44%	0.199	0.088

[†] Partnerships in both of the food networks were determined by a second set of questions, added to the food-sharing questions where respondents indicated that they frequently shared (in the case of store-bought food) or coproduced (in the case of hunted or gathered food). Here respondents were asked about the extent of their sharing or coproduction, and whether the person named would likely characterize the exchanges as a regular pattern of mutual sharing. Where the answer was yes, these were coded as bidirectional links in a distinct “partners” network, one for country food and one for store-bought food.

* DV = domestic violence

From Table 1 it is apparent that kinship is most present, and close-kin relationships most frequent, in close partnerships—most apparent in the formation of hunting/fishing/gathering partnerships that involve frequent sharing of hunted food (row 2) and in frequent sharing of store-bought food (row 1). Kinship plays its least frequent role (and tended to demonstrate greater kin distances) in relationships where the exchanges were not reciprocal—that is, where people did not identify one another as frequent exchange partners. This would include all those networks associated with household wellness, including domestic-violence referral networks (both male and female) and youth-assistance networks. It also included the jobs-assistance network, which demonstrated the least overlap with the kinship network. Located near the top of the list is housing, which our interviewees frequently described as a “family issue.” Yet just below housing is alcohol co-use that, though it appears more closely linked with kinship than any of the networks below it (including sources of store-bought food), was seldom described in kinship terms.

Overall, kinship appears to play a larger role in exchanges of store-bought-food partnerships than it does in exchanges of country-food partners. This finding stands somewhat in contrast to a number past anthropological understandings where the cash economy was seen to be less caught up with issues of relatedness and where conventional notions of sharing activated through kinship were thought not to apply. Taken together,

these data suggest that it is the nature of transaction—whether food is “shared back and forth,” as our interviewees put it, versus transactions where items of food move on in only a single direction—which is most closely associated with kin ties in the community. Close kin ties and a high frequency of family connections are present in sharing networks regardless of whether the items transacted are gained in the “traditional” economy or in the “cash” economy, so long as the nature of the exchange is reciprocal.¹² Where reciprocity is less central to the exchange, the percentage of exchanges involving kinship is less, and distance of those kinship connections is greater, again regardless of which economic sphere is involved. These findings would seem to contradict (or at least contextualize) previous findings from elsewhere in the Arctic that see important distinctions between traditional and cash economies (Collings et al. 1998; Damas 1972; Wenzel 2000) while finding support in those situations where the nature of the exchange trumps considerations of what is being transacted (Bodenhorn 2000).¹³

Household, Family, and Distant Kin

Beyond individuals, however, the relationship between kinship and interhousehold food distribution in Inuit communities in particular has been discussed widely by social scientists, mainly because food is often seen as being organized by notions of descent and the sense of relatedness they create, which go beyond the residential group. In

these instances, anthropologists have argued that past coresidence and more distant kin links that go beyond the current household play a crucial role in ongoing household economic reproduction, leading to a more generalized notion of “family” that can include distant relatives, in-laws, and other relations. The latter was true of our interviewees own explanations of food exchanges in Nain. “Family”—an extended kin group beyond the household—was said to be of primary importance in food exchanges of all sorts in Nain, yet the term often referred to relatives beyond the current household and included aunts, uncles, cousins, grandparents, in-laws, and beyond. In the second phase of this analysis, we examined the kinship-distance data from the previous section while paying more attention to the distinction between former coresidents (“natal households”) and more distant kin (“family”).

In this case, each connected pair in each non-kinship network was once again measured for distance in the kinship network, but this time the results were kept only for those with a kinship distance of one or two steps. The purpose of this was to determine the extent to which an approximation of the natal household (those at one network step), and an approximation of family (those at two or fewer network steps), accounted for the total number of connections in each network. The list of relationships thus included in each calculation is as follows:

- (1-step distance: natal household) the interviewee’s former spouse, domestic partner, or coparentage partner; children living outside the current household; siblings; and parents housed separately (all labeled “k1” or natal-household relatives).
- (2-steps distance: family) all of those listed as k1 relatives plus the interviewee’s grandparents; mother’s or father’s siblings (i.e. “aunts” and “uncles”); spouse’s siblings and parents (“in-laws”); one’s own children’s spouses (“son-in-law” or “daughter-in-law”); and one’s own grandchildren when any of these individuals lived separately (all labeled “k2” or family relatives).

Reading across each row for each network allows us to see how many of the links in each network were links between members of the same natal household (k1 and k1%) and how many of the links were between members of the same family (k2 and k2%). For example, row 1 (“store-bought-food partners”) in Table 2 shows that, of the 117 total store-bought-food partnership connections, 55 of them take place across a single kinship step (i.e., within our interviewee’s natal household), a rate of 47% of all connections. Another way of stating it would be to say that 47% of all store-

bought-food sharing relationships take place between people who are siblings, coparents, or parent or children to one another (no longer of the same household). In the k2% column, one can see that nearly 70% of all store-bought-food partnerships take place between individuals who would describe their kinship relationship in terms drawn from the k2 or k1 lists—that is, within what we designate here as an approximation of family.

As with the statistics in Table 1, Table 2 shows that both household and family relationships are most prevalent in the two food networks, particularly those where direct reciprocal sharing is involved (“partners”), along with housing assistance and alcohol co-use. Conversely, various forms of assistance (from youth issues to domestic-violence referrals) overlap with household relationships less often. Traditional knowledge sources remains consistently toward the middle of k1 and k2 rankings, suggesting that, while kinship plays a role people’s sources of traditional knowledge, it plays less of a role there than in food, housing, and alcohol-co-use networks.

The range of findings in Table 2 deserves comment as well. The number of connections potentially attributable to natal-household relationships ranges from less than 10% (jobs assistance) to almost 50% (store-bought-food partners). Similarly, when the list of included relatives is expanded from natal household to family (that is, from k1 to k2), the range of kinship involvement grows from less than 15% to nearly 70% of all connections. From this, it is clear that kinship does indeed play widely varying roles (including little or no role), depending on what sort of resources are being exchanged and how those exchanges are thought to function. Yet again, we note that it is difficult to see this list as dividing neatly into “traditional” and “cash” economies. Housing and jobs both deal with the cash economy, but they are at opposite ends of the spectrum. Country food and store-bought food are ostensibly from different social economies, but are both closely connected to kinship.

In all, however, the results in Table 2 do little to change the order in which close kinship is associated with the various networks, indicating that notions of relatedness beyond the k2 distance (connections to more distant relatives than those referred to here as family) play only a marginal role in exchanges of resources or information in just about all of the networks.

Natal Household Versus Family

Table 3 presents the difference between k=1 and k=2 connections from Table 2, relative to the size of the former. The purpose of this statistic is to show the extent to which family relationships ex-

Table 2. Number of k1 and k2 connections per network.

Network	Total Connections	k1	k1 %	k2 ⁺	k2%
Store-bought-food partners	117	55	47.0	81	69.2
Housing assistance	408	139	34.1	212	52.0
Store-bought-food sources	340	111	32.6	165	48.5
Alcohol co-use	595	160	26.9	219	36.8
Country-food sources	538	128	23.8	250	46.5
Country-food partners	164	38	23.2	90	54.9
Traditional knowledge	506	112	22.1	234	46.2
Female DV assistance	300	54	18.0	71	23.7
Male DV assistance	84	14	16.7	20	23.8
Youth assistance	286	45	15.7	76	26.6
Jobs assistance	384	34	8.8	52	13.5

⁺ This number includes all those connections of k=2 or less, meaning that it includes all of the k=1 connections from column 2 as well.

tend people's access to information and resources over and beyond the access they have via their household connections alone. Put another way, this statistic is intended to show the extent to which grandparents, grandchildren, aunts, uncles, and immediate in-laws extend one's social access when compared with the ties related only to parents, siblings, spouses, and children.

The results show that family connections contribute a moderate to substantial increase in the number of ties attributable to kinship in virtually all networks, accounting for a 31–136% increase over household connections alone.

Table 3. Dyads and (k2-k1)/k1 per network.

Network	Total Dyads ⁺	(k2 - k1)/k1
Country-food partners	164	136.8%
Traditional knowledge	506	108.9%
Country-food sources	538	95.3%
Youth assistance	286	68.9%
Jobs assistance	384	52.9%
Housing assistance	408	52.5%
Store-bought food sources	340	48.6%
Store-bought food partners	117	47.2%
Male DV assistance	84	42.9%
Alcohol co-use	595	36.9%
Female DV assistance	300	31.5%

⁺ The total number of dyads listed here does not directly reflect the total number of connections, exchanges, or referrals collected for each network. Bidirected edges (where A referred to B as a network alter in a recent exchange; and where B, in a later interview, pointed to A as a network alter in a recent exchange) were treated as a single exchange where it seemed likely that the transaction represented the same event.

K2 connections contribute most significantly to country-food partnerships, to the nonreciprocal distribution of country food, and the transmission of traditional knowledge. This matches ethnographic sources from a number of locales (Hovelsrud-Broda 2000; Stern 2005) that show that extended family is most important in understanding connections associated with tradition. As such, these findings support the conclusions by Hovelsrud-Broda (2000) that subsistence food and traditional knowledge draw on a wider circle of kin for exchange and partnership than do the exchanges of store-bought food or other interactions with the cash economy, which tend to exchanges among a much closer group of kin (k1% in Table 2).

Some further remarks can be made as well. By including family connections, beyond those deriving from the natal household, the number of connections in the country-food partnership network that reflect kin relationships more than doubles. The same is true for connections in the traditional-knowledge and country-food networks. Without these connections, the overlaps between these networks and the kinship network would be much sparser. Another way of saying this is that access to traditional knowledge and resources happens most often at a level beyond that designated by close relationships that derive from comembership in an original natal household. More than any of the other network realms, those associated with tradition (i.e., traditional foods and knowledge exchanges) seems heavily dependent on notions of extended kinship.

Conversely, near the bottom of Table 3 we see that the marginal gains provided by k2 connections are considerably less than those already accounted for by k1 in the jobs and domestic-violence networks. These results would seem to indicate that while close kinship connections play

a role in these networks, a notion of extended family is not an important factor in them.¹⁴

Conclusions and Discussion

A summary of the above conclusions begins with the fact that kinship connections in Nain vary in the extent to which they may account for social-network connections on the whole, appearing central to individual connections in networks involving food production and consumption (both store-bought food and subsistence resources) and marginal in networks through which individuals seek assistance for domestic issues. As such, the role of kinship in these networks does not conform easily to distinctions between traditional exchanges and those involving items from the contemporary cash economy.

Further, we have argued that immediate kinship relations, those normally identified with “natal-household” relationships, seem to play their largest role in the frequent sharing of store-bought food, housing assistance, one-way exchanges or donations of store-bought food, and in the co-use of alcohol. “Family” relationships (normally used in Inuit studies to reflect connections across two generations and to include immediate collateral relatives and those connected through marriage or coparentage) that are inclusive of natal-household relationships also appear to play their largest role in those networks where direct reciprocation is important, such as the regular sharing of store-bought food or the formation of hunting-subsistence partnerships.

When compared with natal-household relationships, extending connections to include more distant relatives (i.e., family) seems most important in explaining network connections associated with hunting-subsistence partnerships, sources of traditional knowledge, and the distribution of subsistence resources or country food. There, relatives beyond those deriving from a natal-household unit but within two kinship steps seems to explain a significantly larger number of exchanges.¹⁵

These findings can be compared with conclusions drawn from elsewhere in the north. We lack the historical data to determine whether, as Collings, Wenzel, and Condon (1998:311–12) argue, kin ties are more significant in contemporary-food sharing than they were in the past, though this same idea is continued by Duhaime, Chabot, and Gaudreault (2002:94–5), who see contemporary systems as the result of living in a “pluralistic society.” In Nain, it seems that both cash and traditional-hunting systems draw from close kin, with natal-household relationships playing a large role in regular reciprocal exchanges of both store-bought food and country food. The role of close-kin links in the nonreciprocal sharing of country

food gains more from inclusion of family members (beyond the ties associated with an individual’s natal household) than does the one way sharing of store-bought food, but overall levels of kin representation in both networks remains similar. If such differences are recent historical developments, they appear to affect both items from the cash economy and those that are not.

Langdon’s (and Usher, Duhaime, and Searles’s [2003]) characterization of household’s embedded in a “mixed economy” where subsistence activities draw on “a set of relatives by descent or marriage” (Langdon 1991:281) finds support here, at least insofar as the sharing of subsistence resources is considered a subsistence activity. This stands in contrast to assertions by Searles (2002:56), that Inuit define “the objects they use and consume within a spectrum of dichotomies distinguishing the world of Inuit from the world of Qallanaat.” People in Nain did distinguish between store-bought food and what we have called country foods in this way, but the concept of traditional foods per se was not prominent in discussions of identity. Rather, people usually referred to the contents of what Searles (2002) sees as the traditional economy as “wild foods” or “wild meat”, distinguishing its origin or location rather than its mode of procurement. One reason for this difference may be that the majority of non-Inuit folks in Nain are other Labradorians, who (regardless of ethnic identity) have historically used many of the same foods and obtained them in the same ways.

In contrast, Bodenhorn (2000:47) points out that “sharing networks along which Iñupiaq kinship relations are maintained are about the work of kinship—about the multi-stranded reciprocities that involve doing things.” Our findings support this idea, with close kinship connections appearing most frequently in situations of reciprocal and frequent exchanges and identified as an element of being part of a family. The critical understanding for Nain residents, in contrast with that argued by Searles (2002), is that hunting exchanges are more closely connected with the work of kinship rather than being subsumed under a larger identity-based project.

Like Langdon (1991), we did not find a common insistence on the idea that kin can be chosen (as described by Nuttall [2000]), though it was clear that many people preferred to hunt, fish, and gather wild resources, and exchange all of these with particular close kin. If, as Nuttall (2000:52) notes, “Most hunters are usually in a position to choose good, reliable hunting and fishing partners from a wide range of relatives who are not consanguineal kin,” in Nain people frequently did choose from close consanguineals—they selected someone in their original natal household 23% of the

time and someone in their family 54% of the time. Still, the large number of partnerships that go beyond family in both of these networks would support Nuttall's recognition that, while kinship is pervasive in Inuit communities, it is not definitive. And the fact that nearly half of close hunting partners and more than half of all country-food exchanges took place outside of close kinship calls into some doubt Wenzel's (1995:95) conclusion that "ningiqtuq sharing among Clyde Inuit relates closely to the behavioral dictates associated with [ilagiit] kinship."¹⁶ Rather, the answer appears to be that hunted or collected resources move through the community according to a variety of socially significant demands and expectations, of which kinship is only one part.

And finally, our findings support Stern's (2005:67) insistence on the distinction between household and extended kinship "despite Inuit acceptance of a cash- and wage-based economy and other institutions of the modern state." Nain Inuit seem to activate a group of kin distinct from those of their original natal household (i.e., the group that we called k2 relatives) in exchanges of country food, traditional knowledge, and youth assistance (see also Usher et al. 2003). What we have called here the marginal gains associated with a notion of "family" connections (as opposed to natal household) is clear for these realms. In addition, the frequent sharing of store-bought food between households linked by close kin lends considerable support to Stern's (2005:77) observations that, unlike "Eurocanadians [who] are not generally expected to fund the needs of kin living in other households", such expectations are common, and commonly acted upon in Nain.

A final series of related considerations come from food-sharing studies among northern peoples from the human behavioral ecology paradigm. Ziker and Schnegg (2005), for example, have studied food sharing among Dolgon and Nganasan in the late 1990s and found that kinship connections played an important role in reciprocal sharing of food among households, with results similar to those found here, while Allen-Arave, Gurven, and Hill (2008) have found that the influence of kinship must be understood as one element in a larger system of reciprocal exchanges. Coming from a perspective closer to our own, Magdanz et al. 2002 found that kinship was a key predictor of affiliation patterns for clusters of sharing households in two Iñupiaq communities in northwestern Alaska. While differences in scale, the household basis for the network portion of these two studies, and a different method for coding kinship distance make direct comparison difficult, the central role of kinship in resource distribution identified by both of these studies is confirmed. By disaggregating distribution unrelated to

coproduction (sources) from distribution associated with coproduction (partners), our results can also be seen to qualify these findings. As above, the country-food sources network would appear to draw from a wider group of kin than the country-food partners network, indicating that postproduction distribution likely follows a different dynamic. In future work, we plan to evaluate these data on a household basis to make more direct comparison—and perhaps greater resolution of this last point—possible. This study was intended to produce data on sharing across a range of networks, rather than focusing specifically on issues of subsistence harvest.

That being said, we find it difficult to interpret our findings within a human behavioral ecology paradigm. Overall, we found that the majority of sharing events across a range of networks over the course of the year were nonreciprocal, both for food and other sources of help—reciprocal ties and close kinship were clearly related, but sharing outside of those relationships was one way and would seem to support the idea that people share things for which they find that surplus provides decreasing utility (see Dombrowski et al. 2013[b]) or for which they are recognized as local experts. Looking back at Table in endnote 1, apart from the two networks that were defined by reciprocal arrangements (country-food partners and store-bought-food partners), the only other network to show high levels of reciprocal reports was the alcohol-co-use network. All of the other networks showed low levels of reciprocity, regardless of whether they involved traditional or cash-economy based goods, at least in terms of the time frame of the analysis here (i.e., 12 month window).

Perhaps the main stumbling block for interpreting the sharing shown here in human behavioral ecology terms is the fact that Nain is a complex modern economy, with incipient class divisions, a history of interethnic divisions, and persistent social strains associated with its drastically uneven incorporation into the global-resource economy (see Dombrowski 2008). Altruism, in this case, could stem from any number of sources (Christian missionization, ideologies of family learned from Canadian television, contested ethnic-identity projects—in short, history). Much the same could be said for the attempt to see in all of these acts some harkening back to an imagined precontact ethnic horizon of intrinsic "Inuitness." Rather than attempt to control for history, as it were, we feel that the best overall interpretation of the data presented here is to see them as evidence for self-organized systems formed in response to the ebb and flow of capital at a resource frontier, where more substantial forms of social organization are quickly harnessed to brokerage roles, and

where, for the majority of residents, social instability is the only consistent element (see Dombrowski 2001, 2010[a], 2010[b], 2013; also Roseberry 1989; Sider 2003, 2006).

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Endnotes

1. A full discussion of the sampling methods is available in Dombrowski et al. 2013a. A table of common network measures that describe each network is available below:
2. In network terms, D-dyads were originally coded as directed connections, meaning that the link between them goes from the parent or adopted parent to the descendant, while sibling-

ship and marriage, coparentage, and common-law status were made “bidirected,” meaning that each person in the relationship is assumed to share the same type of connection to the other person. For purposes of the analysis below, however, all three types of kinship dyads were treated as non-directional edges of equal strength. Worth noting, and implicit in what has been said so far, is that M-dyads in this case represent several roughly equivalent relationships, as they were largely accorded similar weight when discussing notions of relatedness locally. This includes married couples, unmarried (“common-law”) couples, and no-longer-connected coparents of the same person. Because a low number of individuals in Nain are formally married, most respondents described their relationship status as “common-law”—as in “So-and-so is my common-law.” Common-law relationships are deemed socially significant and the equivalent of marriage when discussing relatedness, and accorded some significance once dissolved (i.e., there is a distinct sense of “ex-common-law”, on a par with ex-wife or husband in the case of formal marriage). Likewise, the kinship connections created by common-law status survive after the breakup and remain in place in the same fashion as they would have, had the marriage been made “official.” Thus in the vast majority of cases where common-law relationships resulted in offspring, coparentage remains a significant social relationship even after common-law relationships ended.

3. As will be seen below, a major concern of this paper is the fact that households are difficult to define and look very different when we are talking about coproducing, coconsuming, and residential groupings. In this paper we use the term “house-

Table n1. Common network measures.

Domain	In-Degree Centralization	Mean In-Degree	Watts-Strogatz Clustering Coef	Network Clustering (Transitivity)	% Reports Reciprocated
Alcohol co-use	0.0010	1.67	0.0931	0.0746	37.9%
Country-food partners	0.0647	1.70	0.0866	0.0497	100.0% ⁺
Country-food sources	0.0601	1.26	0.0413	0.0161	1.5%
Female DV assistance	0.2341	1.05	0.0414	0.0036	1.3%
Store-food partners	0.0158	1.40	0.0789	0.0750	100.0% ⁺
Store-food sources	0.1530	0.99	0.0426	0.0096	0.5%
Housing assistance	0.0325	1.02	0.0522	0.0372	2.4%
Jobs assistance	0.0708	1.13	0.0075	0.0027	1.2%
Male DV assistance	0.1516	0.72	0.0000	0.0000	0.0%
Traditional- knowledge sources	0.0572	1.13	0.0210	0.0081	1.5%
Youth assistance	0.0883	1.00	0.0012	0.0015	0.0%

⁺ These networks were composed entirely of reciprocal ties by definition. They represent close sharing relationships and/or coproduction (in the case of country foods, where coproduced resources are shared).

hold” for coresiding individuals (who also tend to do some coconsuming and coproducing). The term “natal household” is used as an analytical term for those separate households tied together by close kinship bonds (k1 distance), many of which tend to coproduce and coconsume, in varying amounts. And finally, we use the term “family” as an analytical term for distinct households linked by more distant kinship bonds (k2 distance), who may or may not coconsume and coproduce. The question that guides the second half of this paper is the relative extent to which each of these groups of households do so, in terms of the various types of help and sharing described here.

4. While not immediately apparent in the network diagram, it is worth noting that the amalgamated kinship diagram includes several adoptions, same-sex coparentage relationships, and other elements of the locally accepted kinship connection. This flexibility is meant to incorporate locally accepted values and understandings. The 218 genealogies represented all of those individuals in our sample who were willing to complete a genealogy form, which included ego \pm 2 generations. These were more than enough to establish the kinship links for the entire community, as considerable overlap allowed for the cross-checking of connections.

5. The main exceptions are anthropologists working in the area of human behavioral ecology, including Magdanz et al. (2002) and Ziker and Schnegg (2005).

6. Collings notes that Inuit in Ulukhaktok use the term “family” in a broader sense, similar to that documented elsewhere for non-Inuit aboriginal groups (Collings 2011:209; see Dombrowski 2007). Their use of the term family seems in many ways to correspond with a second way in which the term is used in Nain (i.e., as an extended kin group involving both collaterals and in-laws). In Nain, the designation finds its limits not so much in a particular kin distance, however. Rather, “family” ends where political affiliation begins to differ. That is, one’s family is those collaterals and in-laws who see one another as a political bloc. This second sense is not fully discussed here, as it has less to do with kinship and notions of relatedness per se, and more to do with political changes taking place across the North. In Nain, the political use of the term family remains secondary to the notion of “family” as kin “one can count on for help”. In this paper, the latter is given a formal definition so as to test claims put forward elsewhere about the nature of Inuit kinship structure and sharing. We note, however, that the political use of the term receives little attention in anthropology, despite its prevalence, see Dombrowski (2007) for discussion.

7. A second significant difference between the approach here and that pursued by Collings is that we have rendered the network as a 1-mode network (where all of the nodes in the network represent categorical equivalents—i.e., people) rather than as a 2-mode network (where some nodes represent people, and some represent categories of kin). The decision was based primarily on the fact that a 1-mode network seemed to fit better with local conceptions of relationship, and, secondarily, because it provides far greater flexibility in interpretation or formal analysis. We note that the current network could be collapsed into the same type of network chosen by Collings if necessary. However, this goes beyond the scope of the current paper. We also note the obvious difference in scale and overall approach. While Collings chose to interview a small number of regular hunters about whom they regularly brought food, we chose instead a general survey of community residents, asking for their most recent source of wild foods (and other exchanges). By focusing on consumption, we hoped to gain a broad view of how resources circulate throughout the community and sharing practices that often involved exchanges among nonhunters as well as those directly responsible for country-food production.

8. The appearance of continuity through the contact and colonial eras is perhaps in part due to the surface level similarities between classical “Eskimo” organization and the notions of kin-relatedness brought by Euroamerican colonists (i.e., bilateral, flexible notions of descent). This likely allowed subtle but important differences in traditional Inuit kinship practices to go relatively unnoticed by missionaries and other agents of colonial social change. The extent to which this was true of early ethnographers remains an open question (see Stern [2005] for full development of this point).

9. Christopher Trott (2005) advances a challenging theory of Inuit social organization that sees two systems of relation operating simultaneously. The first is organized by the Ilagiit system, based around coresidence and to an extent common descent; the other is based around a historical configuration of names attached to specific roles in specific geographical locales, labeled the Tuq π uraqtuq system. The latter, Trott argues, is invoked by the reuse of names, and much of the adoption and other forms of residential mobility within the Ilagiit system is based on attempts to accommodate the Tuq π uraqtuq system by rejoining names with specific geographic areas. While intriguing, such systems seem not to apply to the Labrador Inuit, perhaps because of the long history of resettlement, missionization, and the fact that English is now the predominant first language of virtually

all adults. In Labrador, name retaining practices are enacted, as is adoption, but a systematic relationship to particular areas and the coordination of these two practices seems largely missing.

10. For analytical purposes, all networks ties were treated as symmetrical for calculating raw network distance.

11. Such a combination ($\beta\mu$) allows for the maximization of kinship connectedness or closeness in both variables, given that a higher percentage of “reachable pairs” indicates a potentially greater role for kinship in that particular network (regardless of distance), and a greater inverse mean distance indicates a “closer” group of kin involved in those exchanges (across the range of all dyads). Multiplying the percentage (“how many”) by mean distance (“how close”) thus maximizes the combined statistic in those cases where a high percentage of cases may involve kinship and do so over a relatively close collection of kin.

12. Obviously the term “reciprocity” has a long history in anthropology and sociology. Here the term is used to designate partnership in the food networks. This is far more rare than the occurrence of “network reciprocity” in the food networks, or in any of the other networks. The latter would indicate only that individuals reported one another as a source of food (or help) at one point or another in the prior 12 months. This sort of mutual help is quite different, we would argue, than regular, conscious patterns of exchange between two people.

13. Past readers of this paper have wondered whether this finding translates across all ethnic groups in Nain, especially where prior findings by Kennedy (1982) have shown that Inuit tend to place a high value on reciprocity in social exchanges. This is difficult to determine in Nain. After the Labrador Inuit Land Claims of 2006, many individuals that would in the past have identified as “Settlers” are now free to self-ascribe as Inuit. This issue is dealt with directly in Dombrowski et al. 2013a,b.

14. This may be because natal household relationships dominate these networks or because a general state of relatedness is at work. This question is not settled by the information in Table 2 or Table 3 and awaits further analysis and discussion.

15. We note that the marginal gains associated with kinship connections beyond the level of natal household and family seem most concentrated in jobs and housing assistance and in alcohol co-use ($\beta - k2\%$). We note, however, that this statistic, measuring the influence of kin beyond the range of cousin, etc., may also reflect the highly interconnected nature of the kinship network such that even randomly chosen pairs of individuals are

likely to share a kinship link at some distance. Along those lines, we note that no two people in the large connected component of Figure 1 are more than 10 kinship steps away from one another.

16. Wenzel (1995:56) is careful to point out that “Ningiqtuq cannot simply be described as a system for the generalized allocation of food, goods, or labor. The complexity of this system, as described in relation to its operational characteristics in contemporary Clyde River, suggests that various mechanisms complement each other without the imposition of undue redundancy,” though we note that the majority of the exchanges he refers to would be included under the country-food partners, country-food exchange, store-bought-food partners, and store-bought-food exchange networks discussed here, which appear to be those most closely associated with kin links.

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