Human Organization, Vol. 76, No. 2, 2017

0018-7259/17/020171-13$1.80/1

Confounding Culture: Drinking, Country Food Sharing, and Traditional Knowledge Networks in a Labrador Inuit Community

Joshua Moses, Bilal Khan, G. Robin Gauthier, Vladimir Ponizovsky, and Kirk Dombrowski

This aritcle presents evidence from one Northern Inuit community showing that networks associated with the exchange of traditional knowledge and subsistence foods among households overlap with alcohol co-use patterns. The findings presented here are based on a large social network research project that included 330 interviews with adult residents of a single community over the course of more than five months. These data belie depictions of alcohol use as solely pathological in indigenous communities. The fact that relationships at the center of traditional/cultural activities are simultaneously relationships through which ostensibly damaging behaviors are enacted necessarily presents a more complex picture than is often depicted in literature on Aboriginal mental health and well-being. Culture, we illustrate, is not a separate sphere of life where individual and collective well-being is produced by activities deemed healthy, excluding those behaviors understood as damaging. Instead, the sources of cultural continuity and resilience are embedded in activities that may also be considered harmful. The implications of these findings for culturally-based interventions are discussed.

Key words: alcohol, culture, Indigenous, traditional knowledge, social networks

One of the more vexing, ongoing health and social problems in North American Aboriginal communities is alcohol abuse. Said to be both a cause and consequence of numerous social ills, alcohol abuse and Indigenous people have a long and difficult history, intertwined with racism, exploitation, and pernicious cultural stereotypes (Cameron 1999; Frank, Moore, and Ames 2000; Leland 1979). Recent thinking on Aboriginal health suggests that culture plays a key role in fostering resilience, acting as a protective factor against an array of damaging behaviors (Dickerson et al. 2012; Gone and Calf Looking 2011; Hawkins, Cummins, and Marlatt 2004; Walters, Simoni, and Evans-Campbell 2002). In this view, traditional cultural practice such as land-based activities linked to spirituality and ancient traditions—activities such as hunting, food gathering, the sharing of locally obtained foods, and traditional craft production based in these same activities—are said to provide resources for well-being (Garroutte et al. 2003; Kirmayer, Simpson, and Cargo 2003; Parlee, Berkes, and Gwich'in 2005; Stone et al. 2006). This, along with self-government and collective local control associated with cultural continuity produces resilience on both individual and collective levels that resists negative behaviors, including suicide and substance abuse (Chandler and Lalonde 1998; Hallett, Chandler and Lalonde 2007; Lazrus 2015).

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Joshua Moses is an Assistant Professor of Anthropology and Environmental Sciences at Haverford College and served as lead ethnographer for the project. Bilal Khan is the Happold Professor of Sociology, and Robin Gauthier is an Assistant Professor of Sociology at the University of Nebraska-Lincoln. Vladimir Ponizovsky is a doctoral candidate at Tilburg University in the Netherlands. Corresponding Author Kirk Dombrowski is the John Bruhn Professor of Sociology at the University of Nebraska-Lincoln and Principal Investigator for the project. *This research was supported by a grant from the United States National Science Foundation, Office of Polar Programs, Division of Arctic Social Sciences, GR ARC 0908155, and was carried out with the approval of the Nunatsiavut Research Committee. All the material contained here was obtained with the informed consent of all participants. The analysis of the data and all conclusions and recommendations are the responsibility of the authors and do not represent the opinions of either the United States National Science Foundation, the Nunatsiavut Government, or the Nunatsiavut Research Council. Special thanks are due to Fran Williams, Jane Dicker, Toby Pijogge, and Eva Lampe in Nain. Modeling and analysis were performed at the REACH Lab at the University of Nebraska-Lincoln (reach.unl.edu).*

1995; Spicer 1997, 2001). In making this argument, we by no means suggest that traditional activities are unimportant but rather that social life does not adhere to the clear analytical lines of some culturally-oriented public health approaches and resulting interventions. Ongoing representations of pathological drinking in indigenous communities is part of a long painful history of colonial discourse (Prussing 2008; Prussing 2014; Spicer 1997). Yet, by pitting a rigid concept of tradition and culture against the ills of post-colonial alcohol misuse, researchers and interventionists run the risk of reproducing damaging stereotypes and ineffective interventions. As Prussing (2011:8) suggests, "Therapeutic transformations from drinking to sobriety are culturally mediated shifts in behavior and subjective experience that may require considerable negotiation with socially significant others."

These findings may not surprise people who see Aboriginal hunting and gathering patterns as continuous with those of non-Aboriginal populations. Rural dwelling people tend to consume alcohol with the same people they hunt with and the same people with whom they share stories, histories, and traditions, in rural Labrador (Sider 2003, 2014) and likely beyond. In many public health analyses, however, it is common to separate variables in an effort to isolate risk factors and treat them as independent of one another. In such conditions, one activity (e.g., hunting) can be shown to be protective of some outcome, while another (e.g., alcohol use) can be shown to be a risk factor (Dickerson et al. 2012; Garroutte et al. 2003; Herman-Stahl and Spencer 2003). This independence assumption is seldom tested, however.

One reason for this is that we frequently lack sufficient data to examine the interaction of a variety of variables as they act on and inform a single social relationship. Few studies of alcohol use among Aboriginal and Native American communities have looked at alcohol co-use networks (O'Nell and Mitchell 1996; Walters and Simoni 2002) and how these networks interact with other exchanges that take place within these same social relations. When networks are invoked in the explanation of alcohol use, (Boyd-Ball et al. n.d.; Ramirez et al. 2012; Venner et al. 2012) they normally examine only ego/dyadic relationships and not whole network topologies. In this article, we show data on alcohol co-use among households in one community and compare these with networks of traditional knowledge exchange and "country food" sharing—the sharing of locally hunted or collected food items such as fish, caribou meat, and berries by those who obtained them (Dombrowski et al. 2013a)—among the same households. As discussed below, the means for comparison employed here is to look for the frequency of overlap between household dyads within an aggregate map of all households in the community and then to examine each of these networks as a whole, comparing their respective structural features. These findings suggest a different picture of the relationship between culture and well-being than is frequently depicted—one where disentangling what are frequently deemed negative behaviors from those deemed positive does not come readily. The implication is that health interventions that see "traditional" activities as antithetical to behaviors deemed "pathological" must account for the interrelated nature of many social activities and the relationships that support them. The complexity of day-to-day relationships, where a single social connection may entail multiplex layers of exchange and interaction, are difficult to represent in conventional statistical terms despite being well known in ethnographic research. While this paper largely utilizes quantitative data, we approach this problem from the perspective of social network analysis (Wasserman and Faust 1994), where greater flexibility is allowed in the depiction of social relations, allowing the analysis to align more directly with prior qualitative approaches to social relationships while maintaining the potential for rigorous statistical estimation of results. Increasingly, particularly among groups where localized exchanges continue to contribute significantly to overall social reproduction, anthropologists have turned to formal network analysis to both document and understand these social systems (Collings 2011), returning to questions of exchange that once played a significant role in anthropological theory but with novel analytical tools.

Background

Aboriginal peoples in North America have experienced long histories of forced acculturation, discrimination, dispossession, and separation of families that resulted in long-term social, economic, and psychological effects (Duran and Duran 1995; Heart 2003; Kirmayer, Simpson, and Cargo 2003). While poverty and socioeconomic factors resulting from the process of colonization—dispossession of land, forced sedentarization, loss of livelihood (Damas 2004; Dombrowski et al. 2014; Tester and Kulchyski 1994), and frequently damaging compulsory boarding schools (Kirmayer and Valaskakis 2009)—undermine Aboriginal health, disentangling distal and proximal causes of health disparities in indigenous communities is an ongoing challenge. Recent literature on historical trauma indicates that the experience of this historic loss remains remarkably prevalent among Aboriginal people today and that such thoughts are linked to psychological distress and, at times, substance abuse (Heart 2003; Kirmayer, Gone, and Moses 2014; Whitbeck et al. 2004).

One outcome of this research is a general acceptance of the uniqueness of the indigenous experience, and questions about whether approaches to public health that are effective for mainstream Western societies will work in indigenous communities (Gone 2007; Waldram, Herring, and Young 2006). Observations of this sort have encouraged health researchers to examine the role of what is often thought of as colonialism's inverse (Clifford 1988; Clifford 2013): traditional indigenous culture and its role in promoting or protecting Aboriginal health (King, Smith, and Gracey 2009; Kirmayer, Simpson, and Cargo 2003; Wilson 2003). Traditional and cultural activities have been defined widely in this literature (Gone 2006; O'Nell and Mitchell 1996; Prussing 2011), ranging from crafts to hunting, fishing, and other land-based activities, ceremonial activities, and traditional song and dance. In almost all cases,

however, culture is discussed as a protective factor against specific negative behaviors, including problem drinking, suicide, aggression, and domestic violence (Flanagan et al. 2011; King, Smith, and Gracey 2009). Here, various traditions, individual identities, ongoing indigenous language use, relationships to the land, and indigenous notions of wellness and health have been examined for their importance (Allen et al. 2014a; Chandler et al. 2003; Duran and Duran 1995; Kirmayer, Simpson, and Cargo 2003), with rigorous empirical investigations linking several of these to well-being and reduced substance abuse (Allen et al. 2014b; Gone and Calf Looking 2011; Kirmayer, Simpson, and Cargo 2003; Walters, Simoni, and Evans-Campbell 2002).

In some cases, specific cultural activities are left largely undefined, and a higher level of abstraction is employed. Berry's (2003) model, for example, contrasts acculturation—learning and adapting to the norms of the majority culture—with enculturation—the process of socialization into one's culture of origin—as a critical distinction. Noting this, researchers have argued that higher levels of enculturation are related to greater ego strength (Gfellner and Armstrong 2012), lower levels of physical and relational aggression (Flanagan et al. 2011), and reduced alcohol problems (Currie et al. 2011). Walters and colleagues have argued that in American Indian communities, enculturation can act as a protective factor or bolster the effects of other variables, resulting in an indigenist stress-coping model that is rooted in culture and acts as moderator of traumatic stress and substance abuse (Walters and Simoni 2002; Walters, Simoni, and Evans-Campbell 2002). This model, and related variants, have received considerable attention (Bersamin et al. 2014; Walls, Hartshorn, and Whitbeck 2013). Among the studies that support a cultural hypothesis, some of the most impressive and rigorous results come from those that focus not on specific aspects of cultural practice but rather on issues of local control (Chandler and Lalonde 1998; O'Nell and Mitchell 1996). For example, Chandler and Lalonde's work emphasizes the links between self-governance, local management of public life, and community well-being, suggesting that where indigenous communities control local institutions like fire departments, police departments, and schools, there will be lower rates of suicide.[1]

Other studies have looked at cultural identity, rather than enculturation, and found links between strong and positive Aboriginal identity and decreased levels of mental health problems, including substance abuse (Gracey and King 2009; King, Smith, and Gracey 2009). This body of work argues that specific activities associated with culture, including use of Aboriginal language (Hallett, Chandler, and Lalonde 2007), are key variables in supporting well-being. Similarly, Tester and McNicoll (2004) argue that Inuit culture and Inuit self-esteem (*innuusittiaqarniq*) are correlated with lower suicide rates. Wexler, DiFluvio and Burke (2009:568) go one step further to suggest concrete mechanisms for the efficacy of identity, arguing that "health and well-being have been associated with the maintenance of traditional culture for Indigenous peoples *because* the production of culture creates collective meaning, a perception of community through mythology and history, and can provide symbolic bases for mobilization." Other researchers point to similar general community effects both in and out of Aboriginal communities. Studies among First Nations communities in Canada point to higher levels of social capital being associated with well-being and lower suicide rates as well (Mignone, Elias, and Hall 2011; Mignone and O'Neil 2005), lending support to the idea that community and individual factors combine to produce the sorts of protective effects attributed to culture in the abstract. These findings have spurred general optimism in the field of Aboriginal mental health. If cultural variables are linked to better health outcomes (including decreased problematic drinking), then culture might be an appropriate "treatment" for these same problems (Gone and Calf Looking 2011; Kirmayer, Simpson, and Cargo 2003; Rasmus, Charles, and Mohatt 2014; Spicer 2001; Wilson 2003). At a practical level, the results would include prevention and treatment programs that often label themselves as "culture-based interventions" (CBIs), including programs such as American Indian Life Skills (LaFromboise and Fatemi 2011), Project Venture (Kenyon and Hanson 2012), and many others (Barrera et al. 2013; Griner and Smith 2006).

Research centered more squarely on ethnographic methods has painted a somewhat different picture of alcohol use in native communities, however. Here, drinking has been seen simultaneously as a pernicious outside influence *and* as part of core Aboriginal identity (Frank, Moore, and Ames 2000; O'Nell and Mitchell 1996; Quintero 2000). In this view, researchers point to the complexity of Aboriginal people's relationship with alcohol (Spicer 1997), noting that alcohol use is often framed by outsiders in a moral discourse drawn from non-indigenous sources. In this discourse, alcohol is seen as both foreign to indigenous communities and necessarily destructive of culture, and ordinarily juxtaposed to an imagined pre-alcohol past. When culture is proposed as a possible solution to the problems associated with alcohol use, this same moral curtain divides important social aspects of alcohol use associated with local solidarity and recommends culturally-based treatments at the expense of other treatment options (Brady 1995). As Prussing (2011:228) suggests, interventions that view alcohol as inherently risky and culture as necessarily protective miss the fact that:

> Opportunities and motivations for sobriety are shaped by socially patterned and conflicting perspectives about emotional expression, self-transformation, institutional authority, inclusiveness in local spiritual traditions, and self-governance in health care.

From this perspective, culturally-based interventions to end alcohol abuse and other social ills might be seen as less clearly an unmitigated plus. While such programs can help produce social situations in which alcohol use is devalued, they may simultaneously and significantly alter complex social relationships of which they form only one part. As

importantly, notions of culture and identity in many arctic communities are fraught with political tensions (Dombrowski 2008; Dombrowski 2014), and few definitions of culture in the public health literature take into account internal differentiation (class and status difference; see Dombrowski et al. 2016), nor do they examine ways in which the activities that are glossed as culture remain circumscribed by older anthropological definitions of the term (Prussing 2008), definitions that may be tied to past colonial and neo-colonial projects far out of line with local interests and ideas. As historical anthropologists have shown for a range of indigenous peoples, remaking history into "traditional futures" means resisting any sense of inconsistency between the incorporation of new objects, practices, and ideas alongside more static instances of tradition (Clifford 2013), or rejecting the interpretation of culture change as culture loss (Dombrowski 2014; Sider 2014). As such, indigenous understandings of their own culture may be quite different and far from what is described as such in earlier ethnographic portrayals. For instance, in our research, when asked about culture loss, several participants reported that *skidooing* (snowmobiling) use was declining. Culture in this case is more about social activity shared among a particular set of social relations rather than an activity rooted in pre-contact traditions. This is not to detract from the potential importance of traditional crafts, storytelling, and drum dancing, but rather to suggest that definitions of culture in health studies that draw on past, overly simplistic notions of culture necessarily fail to account for a great deal of what contemporary indigenous people find important in their lives.

Below, we suggest that examining network topologies of giving and receiving material and non-material resources provides insight into the specific ways that cultural behaviors, such as caribou hunting or learning to make seal-skin boots, intersect with a behavior frequently deemed destructive: alcohol co-use in the context of these activities. The point is not that alcohol use is a cultural behavior, but rather, that complex forms of human interaction often seen as "culture" by both outside observers and community members themselves, can and often do include alcohol co-use as part of the total relationship in which the activity is embedded. Where a household is seen as situated within manifold relational dynamics (Emirbayer and Goodwin 1994) who drinks with whom, and who shares food and knowledge with whom, can provide important information on why seemingly problematic behaviors, such as alcohol use,[2] remain resistant to change, despite wide recognition of their associated community consequences. Such findings have their parallels in prior ethnographic accounts but make use of community wide statistics and a level of sociological precision that those accounts usually forgo.

Importantly, our account does not take issue with the conclusions reached by those concerned with culture as a primary factor for understanding social behavior. Rather, it points to the fact that alcohol co-use may play a role (and perhaps a constitutive role) in what people value in their lives, despite associated negative consequences. Where culture is parsed as meaning, and seen as a remedy for ills, social life is depicted as independent from the structural factors influencing daily life and livelihoods. This focus on finding meaning through *culture* (i.e., indigenous worldviews, cultural frameworks, and "ways of knowing") obscures other potential sources of rupture and disease whose locus may not be in the community, or found through conventional psychological and public health methods. Further, seeing culture as separate from other activities deemed undesirable (alcohol use) sets researchers up as moral arbiters of behavior (Prussing 2011), even while they continue to risk charges of avoiding problems apparent to community members but often underplayed in day-to-day ethnographic accounts (Leland 1979). That is, when conducting research with built-in assumptions about what comprises *culture* and what does not, there is little hope of discerning what is at stake for people in the relationships they create (Dombrowski 2004; Dombrowski 2007). In the case of this article, it is the intertwining of networks and what appear to be the contradictory impacts of these networks that point us to ways that the social reproduction of meaning is potentially constrained.

Data

Between January and June 2010, our research team conducted a large "social network" study in Nain.[3] The project involved interviews with 330 adult residents of the community over five-and-a-half months. The final sample contained at least one adult from each of 218 (80.4%) households in the community.[4] 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 chosen in consultation with community members: Country Food, Store-Bought Food, Traditional Knowledge, Domestic Violence and Household Wellness, Alcohol Co-Use, Youth Referral Support, Housing, and Jobs (Dombrowski et al. 2013a). We note that while these networks are not exhaustive of all possible categories of exchange, they point to key arenas in which community members defined their relationships during several months of qualitative interviewing and a review of the survey questions by a community advisory panel. Participants in the interviews were asked questions like: "If you did not have any country food (wild meat or fish), who would you 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 and households of those individuals who were given as sources of help, were coded for purposes of anonymity. The networks discussed below were formed from the aggregation of individual interview dyads where the interviews revealed actual sharing events in the last twelve months (Dombrowski et al. 2013a).

Table 1. Self-Assessments of Drinking Behavior

Compared to others here, how would you assess your own drinking (n=280)?:	%
Don't drink	6.1
Light drinker	27.5
About average	58.9
Heavy drinker	7.5
How frequently do you consume alcohol (n=280)?	
Never / almost never	31.8
Monthly / bi-monthly	11.8
Weekly	24.6
Multiple days per week	28.6
Daily	3.2
Do you usually drink with the same people (n=217)?	
Yes	51.2
No	25.8
It depends	23.0
Do you ever drink by yourself (n=218)?	
Yes	38.1
No	61.9

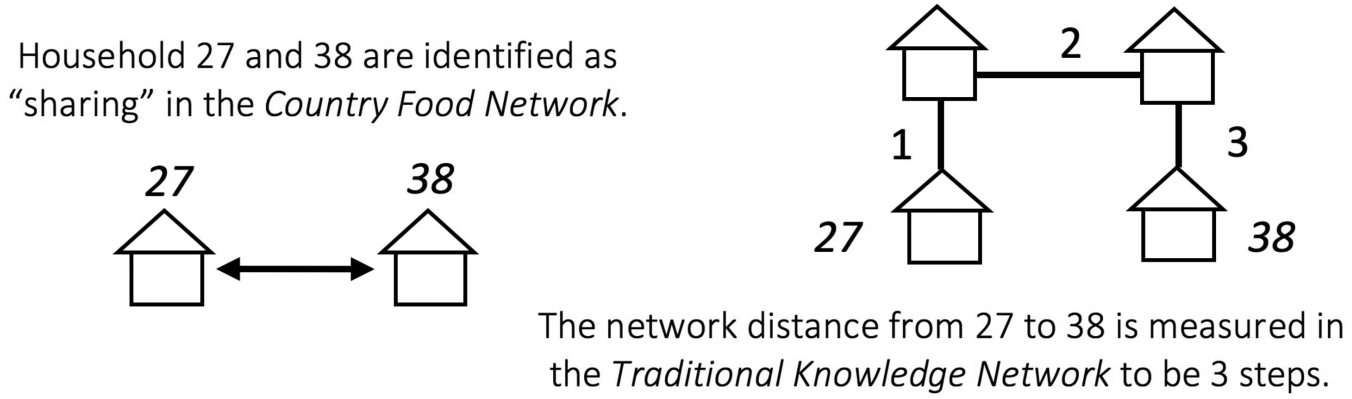
These data were collected as part of a larger project aimed at understanding the informal networks that residents of Nain use to access housing, food, health related counseling, traditional knowledge, and other factors (Dombrowski et al. 2013a; Dombrowski et al. 2013b; Dombrowski et al. 2013c). Nain is a predominantly Inuit community and the capital of the newly formed indigenous autonomous area of Nunatsiavut. The community was formed by Moravian missionaries in the late 18th century and is currently composed of approximately 1,200 people, roughly 60 percent of who are ages eighteen or over. Because social networks were the main focus of the overall study—and also because of high levels of residential mobility (caused by a long-standing housing shortage) and lack of phone service made other forms of random sampling difficult or impossible—incentivized peer-to-peer recruitment was used to recruit a large sample of respondents (all of which were conducted by project ethnographers Dombrowski and Moses). Beginning with a small number of recruitment "seeds," participants were offered three recruiting coupons that could be used to refer other potential participants to the project. The coupons were numbered to track recruitment chains for later statistical correction, and participants were paid $10 CAD (about $7.60) for each successful referral. Each interview lasted roughly one hour, and in total, approximately 16,000 network connections were documented among the 773 adult residents and formal social institutions of Nain.[5] Respondents completing the interview were paid $30 CAD (about $23) for the interview, and several were offered additional interview compensation for longer, in-depth interviews on topics that emerged in the course of the network survey. The latter resulted in thirty-one in-depth, open-ended interviews, which were supplement by five months of ethnographic observation and eight photo-voice interviews on a list of community driven topics. Three local community research assistants were employed to help qualify and explain interview material, collect genealogies from 220 adult participants, and manage the recruitment process. The representativeness of the sampling method has been discussed elsewhere (Dombrowski et al. 2013c), which showed a close fit with known community statistics and little measurable sample bias on issues of economy, age, gender, and ethnic identity.

Self-assessments of drinking behavior were also collected as part of the alcohol co-use portion of the network survey. These data are presented in Table 1. As can be seen there, 94 percent of those who completed the alcohol use/co-use portion of the survey (n=280) consume alcohol in some amount, with the majority consuming on a weekly to daily basis. Nearly two-thirds of those who answered the social drinking question ("Do you ever drink alone?") responded negatively, indicating that the majority of alcohol consumption takes place in the context of co-use, while over half indicated that they usually consume alcohol with the same co-use alters. The alcohol co-use network data analyzed here resulted from questions aimed at specifying actual co-use events. Here, network participant alters were identified from community rosters for co-use events over the previous twelve months, and full-scale sociograms were constructed at the individual level as an aggregate of those events.

Methods

For this analysis, individual responses to questions about network sharing/exchange events were collapsed to the household level using participant identified residence codes from a community map.[6] This method was then carried out for

Figure 1. Comparing Network Distance in Two Networks



all other network data, providing community-wide networks of ties between households for each network domain. The household level was used here as all of these network realms involved resources that are routinely shared *within* households in ways that would not be tracked by the individual interviews and because prior ethnographic research in Inuit communities has pointed to the household as the critical unit of consumption (Collings 2011; Collings, Wenzel, and Condon 1998; Stern 2005; Usher, Duhaime, and Searles 2003).

To better understand the relationships between alcohol co-use and other exchange networks in the community, we examined the links between connected households in each network domain and compared this with the number of network "steps" that separate the same household pair in each of the other networks (see Figure 1). To show what we mean by network steps, suppose we take a dyad of connected households in the country food network in Figure 1 (for example, a connection between household #27 and household #38). As a connected pair, this would indicate that these two households are one network step away from one another. The question then becomes: if they are one step away in the country food sources network, how "close" are they in the traditional knowledge network? Or any of the other network domains? To answer this question, the traditional knowledge network is analyzed for how many connections it takes to get from "27" to "38" by the shortest possible network path. In the example in Figure 1, the network distance would be three because there are two intervening households along the shortest path. This analysis was undertaken for every pair of connected individuals in each of the networks for each of the other networks, such that we might learn how "far" each household pair is from its network alter in all other network domains. Following this, we ranked the networks by the percent of dyad pairs that were simultaneously dyads in two networks. The results are shown in Table 2. In addition, we calculated the mean number of steps between households in all the networks for each household pair in the alcohol co-use network. These results can be found in Table 3, ranked by the overall "closeness" of the respective network. Near the top of the list in both Tables 2 and 3 is the close association between the country food, traditional knowledge, and alcohol co-use networks. Together with housing assistance, these networks appear to make up a cluster of highly correlated inter-household relationships.

To better judge the statistical significance of these findings, a more rigorous analysis was performed using quadratic assignment procedure (Wasserman and Faust 1994). Quadratic assignment procedure (QAP) is normally used in a situation where we wish to test the similarity of two networks that contain one set of actors but whose ties to each other are defined by two or more different relationships (Baker and Hubert 1981). Evaluating the significance of a correlation under such conditions is complicated by the dependence structure of the network data (Laumann and Pappi 2013) that makes ordinary product-moment correlation measures such as *Pearson's r* inapplicable. While traditional statistical models assume that observations are independent, social network models (such as QAP) explicitly take into account the connections between observations (in this case, reports by participants of their sharing/exchange relationships). Since such examples of exchange are not independent (household A cannot exchange with household B without the inverse also being true), the standard errors generated through the ordinary regression techniques (such as ordinary least squares or OLS) are likely to underestimate the variance of the model parameters (Krackardt 1988; Martin 1999).

In contrast, QAP provides a nonparametric test of the network correlations' significance by producing a distribution of hypothetical test statistics from the observed data (by permuting the rows and columns of one of the matrices, in essence shuffling the ties while holding the network structure constant). The observed correlation is then compared against this hypothetical distribution. The proportion of

Table 2. Percentage Overlap of Ties between Households as a Result of Sharing or Exchanges in Distinct Exchange Networks

Network 1	Network 2	% Overlap
Housing Assistance	Traditional Knowledge	52.7
Country Food Sources	Housing Assistance	51.9
Alcohol Co-Use	Housing Assistance	51.5
Country Food Sources	Traditional Knowledge	50.2
Alcohol Co-Use	Country Food Sources	48.4
Alcohol Co-Use	Traditional Knowledge	46.4
Food Source	Traditional Knowledge	45.8
Country Food Sources	Food Source	45.7
Alcohol Co-Use	Food Source	43.8
Country Food Sources	Female DV Referral	43.5
Female DV Referral	Traditional Knowledge	42.9
Country Food Sources	Jobs Assistance	41.6
Alcohol Co-Use	Female DV Referral	40.9
Country Food Sources	Youth Referral	39.8
Alcohol Co-Use	Jobs Assistance	38.7
Jobs Assistance	Traditional Knowledge	38.7
Traditional Knowledge	Youth Referral	36.7
Alcohol Co-Use	Youth Referral	35.8
Male DV Referral	Traditional Knowledge	7.2
Country Food Sources	Male DV Referral	5.8
Alcohol Co-Use	Male DV Referral	5.7

these permutations yielding a test statistic greater (or less) than the observed test statistic provides a test analogous to a one-tailed hypothesis test. Substantively, the null hypothesis is that the observed correlation results from the overall network structure, not from the particular ties between particular actors (Krackardt 1987). The results of this analysis, comparing all the networks listed above, can be found in Table 4.

As can be seen in Table 4, the clustering of alcohol co-use, country food sharing, and sources of traditional knowledge remain among the highest for each respective domain. Of added interest is the high overlap seen in Table 4 of all of these networks and the networks of housing assistance (which is also clear in Tables 2 and 3) and kinship. What these data suggest is a meta-network of households in which a variety of resources and forms of assistance are embedded and within which alcohol co-use maintains a significant place (Dombrowski et al. 2013b; Stern 2005; Usher, Duhaime, and Searles 2003). As above, these results will strike many of those familiar with social issues in the North as commonsense and obvious, but they have yet to gain a sustained place in how we address and investigate health related issues there.

Discussion

These findings have both theoretical and practical implications. As above, researchers often understand culture as a separate sphere of life. In the Arctic especially, culture is particularly associated with those activities and interactions associated with sharing traditional knowledge and the procurement and exchange of country food. When these activities are associated with other aspects of community life, kinship is frequently mentioned; alcohol use is not. Returning to the discussion of prior research raised above, those approaches, like Spicer (1997) and others (Novins et al. 2011), that focus on the myriad contextual factors affecting Native American

Table 3. Average Network Steps for Paired Households in the Alcohol Co-Use Network for Each Exchange Network

Network	Average Steps
Country Food Sources	4.11
Housing Assistance	4.58
Traditional Knowledge	4.62
Store-Bought Food	5.41
Female DV Assistance	5.74
Jobs Assistance	6.10
Youth Assistance	6.69
Male DV Assistance	11.47

Table 4. Quadratic Assignment Procedure correlations of Network Domains

	Alcohol co-use	Country food shar.	Male DV assist.	Food sources	Housing assist.	Trad. knowledge	Youth assist.	Kinship connect.	Female DV assist.	Job assist.
Alcohol co-use	-	0.20	0.05	0.16	0.27	0.14	0.16	0.20	0.12	0.08
Country food sharing	-	-	0.03	0.17	0.24	0.20	0.14	0.30	0.10	0.08
Male DV assistance	-	-	-	0.04	0.07	0.03	0.12	0.04	0.28	0.02
Food sources	-	-	-	-	0.20	0.14	0.16	0.18	0.11	0.05
Housing assistance	-	-	-	-	-	0.23	0.17	0.26	0.13	0.08
Traditional knowledge	-	-	-	-	-	-	0.10	0.19	0.08	0.03
Youth assistance	-	-	-	-	-	-	-	0.14	0.24	0.05
Kinship connection	-	-	-	-	-	-	-	-	0.09	0.06
Female DV assistance	-	-	-	-	-	-	-	-	-	0.04

Note: $p < 0.05$ for all pairwise comparisons based on one-tailed hypotheses

alcohol use find support here. Further, our findings potentially provide some insight into why treatment programs in Inuit communities so often struggle to produce sustained results. Extrapolating from the results of Tables 2, 3, and 4, one sees that those who do not drink risk having less access to both traditional knowledge and country foods by virtue of their marginal place in the overall network of sharing through which myriad exchanges take place across multiplex channels. Under these conditions, if one is marginal to alcohol co-use networks, his or her access to what is frequently called culture is seemingly reduced**.** As above, this suggests that interventions aimed at reducing alcohol use/abuse need to pay close attention to patterns of exchange and co-use in social domains that may, on the surface, have little to do with alcohol use itself. To fail to do this ignores a key aspect of social life and, here particularly, the ways in which alcohol consumption may simultaneously take place with activities deemed productive of welling. We do not in any way suggest alcohol use should be encouraged or that there is an inherent link between drinking, traditional knowledge, and sharing of wild food. However, drinking alcohol is an important part of social life, here and elsewhere, and social life is not readily divided into discrete categories and segments. While this is true widely, it may be more significant in small communities where there are limited options for developing new social ties. Such an understanding may help explain the persistence of problematic levels of drinking even where substantial efforts have been made to curb alcohol use.

At a practical level, these results would seem particularly important as more and more prevention and treatment programs shift their focus to what have come to be called "culture-based interventions" (CBI). This would include interventions such as American Indian Life Skills (LaFromboise and Fatemi 2011), Project Venture (Kenyon and Hanson 2012), and many others. As recently reviewed by Okamoto et al. (2014:103), within CBI, "there is a lack of understanding related to the level and depth in which culturally focused interventions reflect the worldviews of the populations they are intended to serve." Ethnography has historically provided this sort of understanding, but too often the terms in which that understanding is related remain anecdotal and difficult to generalize. This gap seems readily apparent in the division between ethnographic approaches to alcohol use among Aboriginal peoples and those deriving from public health (Hill 2013; Room et al. 1984).

Based on the results presented here, this article argues that the high degree of overlap among household-level drinking, traditional knowledge, and country food sharing networks requires a rethinking of how we understand connections between culture and well-being in Aboriginal substance abuse and mental health research and interventions. Culture, we suggest, is less a separate sphere of life, where individual and collective resilience is produced by activities deemed healthy, and where those behaviors understood as damaging are seen as outside the realm of culture and antithetical to those practices and identities deemed "traditional." Instead, the sources of cultural continuity and resilience are embedded in daily life where activities deemed healthy and unhealthy may take place simultaneously. Far from further pathologizing Indigenous drinking behaviors, these data suggest that much like alcohol use in non-Indigenous contexts, the ties created and strengthened by drinking may at once bring

with them both damaging behaviors *and* many of the things that people have reason to value. Interventions designed to reduce alcohol use (or other potentially harmful behaviors) through encouraging cultural activities would do well to pay closer attention to the ways that relationships may be both supportive of well-being and damaging—the realities of the profoundly confounding nature of human relationships and the uses of culture.

Limitations

Several considerations limit the findings detailed above. First and foremost is the glossing of alcohol use as problematic drinking in the analysis. Our conflation of these terms followed general community consensus that *all* alcohol use was potentially problematic, but many clinically-oriented researchers would take issue with this assumption and point out that not all programs aimed at limiting the harms of problematic use would agree with this consensus. Second, the voluntary nature of participation in the study, and in particular the non-random recruitment methods, allow for the possibility that some segments of the population may have avoided the study as a result of the inclusion of alcohol-related questions. The demographic representativeness of the sample has been established for a range of variables, but the possibility of data missing in non-random fashion remains. In all, we interviewed nearly half of the adults in the community and representatives of more than 80 percent of all households, but questions of representativeness vis-à-vis alcohol use cannot be entirely answered from the current data.

Conclusions

While culturally-framed interventions continue to evolve and influence the understandings of both researchers, intervention advocates, and communities themselves (Allen et al. 2014b; Gone and Calf Looking 2011), restrictive notions of the entailments of cultural practices risk leaving out key components of how people experience meaningful social ties. As several of our participants noted, to stop drinking is to be cut off from social ties, to be socially isolated, and forced to seek out social ties in other social domains. One of the few places where non-drinkers in Nain could be found consistently was at the local evangelical church. While tensions between evangelicals and non-evangelicals were less open than elsewhere (Dombrowski 2002; Dombrowski 2014), distinct social circles were noted by a number of respondents on both "sides." Several of those we interviewed who stopped drinking articulated a sense of social isolation caused by their efforts to stay sober, including avoidance of close family members' households where alcohol use was prevalent.

In light of these results, culture-based interventions need to take into account the complexity of local relationships and avoid framing *culture* in opposition to *drinking*. If, as our data suggests, drinking networks and traditional activity networks significantly overlap in other arctic and Aboriginal communities, then encouraging more traditional activities is unlikely to reduce drinking. Rather, efforts to curb problematic alcohol use would need to begin with a deeper understanding of the forms of sociality that community members value, eschewing a currently unmarked moral discourse on drinking as an inherent enemy of *culture* rather than a social practice that is frequently intertwined with the day-to-day realities of people's lives. As Garcia (2014:62) suggests, "Families contending with addiction develop ethical sensibilities and tacit modes of moral engagement from the exigencies of everyday life and from the broader political histories that inform it." Such tacit modes are not often explicit features of CBI efforts. A novel approach might begin with the inextricable complexity of human relationships, where drinking can be simultaneously damaging and productive of relational forms that people have reason to value. Such interventions would begin by asking people how they currently seek to mitigate ostensibly harmful aspects of otherwise productive practices (O'Nell and Mitchell 1996), practices that would seem to include alcohol use but which might also include a range of behaviors of similar complexity.

Notes

[1]While this work rightly points to the importance of local control over community resources, it would seem that social change, rather than continuity, is more important in understanding the significance of that control. The institutions described are largely recent, postcolonial arrivals, and as such, instead of local control indicating cultural continuity, it may just as easily suggest novel strategies for the assertion of local political power in a post-colonial context (Lea 2008, 2012).

[2]Prior versions of this article raised questions about whether and to what extent "alcohol use" could be equated with more problematic, clinical diagnoses of "alcohol abuse." Our study did not employ diagnostic criteria or tests beyond those questions detailed in Table 1. However, our concern was the general discourse of "the alcohol problem" in the community, within which community members did not make use of clinical distinctions or even distinctions between social uses of alcohol and problematic uses of alcohol. In general, the alcohol use patterns in the community parallel those of other indigenous communities where relatively low overall consumption (enforced through partial prohibition) masks high levels of binge drinking (Wardman and Quantz 2005). For many community residents in Nain, including those who used alcohol regularly, all use was considered problematic because non-problematic use seemed, subjectively, rare. When asked about the biggest problems facing the community at the time of the study, more than 80 percent of those who responded cited alcohol as the most significant issue. In the words of one participant, "Alcohol is the first, second, and third biggest problem we got here."

[3]The project was carried out with the approval and advice of the Nunatsiavut Research Council and informed consent of all participants. The specific networks of interest to the project were the result of prior discussions with Nain community members, including three focus groups convened to discuss social issues of interest to the community. Following data collection in 2010-2011, de-identified data on all network interviews were returned to the Nunatsiavut Research Council. In 2012, project director Dombrowski presented the results in Nain in a series of community forums where these and other results were discussed. In addition, specific meetings were held with representatives of the Nunatsiavut Department of Health and Social

Development in 2012 at their offices in Happy Valley/Goose Bay. And finally, these results were included in the written project report presented to the Nunatsiavut Research Committee in 2013. A copy of this article was sent for review to the Nunatsiavut research committee prior to journal submission, and no objections to the contents were raised. However, as noted in the Acknowledgements, the views presented here are those of the research team and do not necessarily reflect the opinions or conclusions of either the Nunatsiavut Government, Nunatsiavut Research Council, or the National Science Foundation (who sponsored this research).

[4]The 2006 Statistics Canada Census lists 271 residences in the community, though a number of these are apartment buildings that provide housing for teachers and other seasonal residents mostly associated with the school who participate surprisingly little in the local social economy. Our estimate of locally available housing was 254 dwellings at the time of our research. Using the latter, our survey included at least one adult from 86 percent of the households in Nain.

[5]In all, we documented 749 permanent adult residents in Nain. The remaining twenty-four named alters in the network interviews were either general social institutions in Nain (the hospital, the woman's shelter, the Royal Canadian Mounted Police) or were individuals who resided outside the community.

[6]In creating the household network, each individual dyad was weighted by the inverse of the number of respondents interviewed from that household. Thus, if one individual was interviewed from a household, the tie between their respective households was weighted with connection strength of one. If two individuals were interviewed from the same household, household ties to households of their network alters were weighted with a strength of one-half

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