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## Exploring Indigenous Concepts of Health: The Dimensions of Métis and Inuit Health

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### Introduction

A wealth of research illustrates the inequitable burden of health and social disparities borne by Indigenous (1) Canadians as compared to non-Indigenous Canadians (2–6). Current patterns of health and social suffering reflect the combined effects of colonial oppression, systemic racism, and discrimination, as well as unequal access to human, social, and environmental resources (7–13). Because such sizable disparities exist between Indigenous and non-Indigenous populations, health conditions for the Indigenous population have generally been described in relation to those of the non-Indigenous population. It is arguable that these kinds of comparisons are irrelevant because Indigenous and non-Indigenous concepts of health are shaped by distinct world views and cultures of experience, which are undeniably different between the two populations. Rarely has attention been paid to the diversity of health concepts *within* the Indigenous population itself. Recently, there has been a call for research to explore health concepts from within Indigenous cultures (9, 13–14) while drawing upon health frameworks that integrate Indigenous perspectives that may be useful for Aboriginal health policy development (15–18). In response, we draw upon Canada’s 2001 Aboriginal Peoples Survey (APS) to address the following objectives: 1) to explore dimensions of health for Canada’s Inuit and Métis populations; and 2) to examine the stability of these dimensions across and within cultural and geographical contexts.

### Indigenous Concepts of Health

In constructing the framework for our research on Indigenous health concepts, we recognized that health is shaped by larger social structures, including family, community, nature, and the Creator (19–22). Health is achieved by maintaining a balance of physical, mental, emotional, and spiritual elements (19). A major paradigm within the cultures of Indigenous Canadians is the medicine wheel, which encompasses a wide conceptual understanding of life and the interrelatedness of all its functions: “life, time, seasons, cosmology, birth, womb, and earth are intrinsically located in the symbology of the circle” (20). Although the medicine wheel originates from Plains Indian philosophy, Little Bear (21)

argues there is enough similarity among Indigenous philosophies to apply these concepts generally; still, differences in concepts and emphases may be held by certain Indigenous nations. Typically, the understanding is that each person has a physical part (the body and its physical functioning) and a spiritual part (a connection to the spirit world), both of which are mediated by the emotional and mental capacities of the individual (19). Among the Inuit, these concepts are captured within *inuuqatigiittiarniq*, a holistic world view of Inuit health (21). Beyond the social dynamics of a community, *inuuqatigiittiarniq* also depends on the balance and harmony of economic, cultural, environmental, and biological factors (22). A careful balance of these factors is called *inummarik*, and manifests itself materially in a most genuine person, in a process of continuous, lifelong interaction with people and animals, community and the environment. (22). Our theoretical approach is informed by these ideologies and recognizes that Indigenous concepts of health reflect individual level attributes (e.g., chronic disease, physical activity limitations) *and* broader societal factors (e.g., social supports, community wellness).

Around the globe, concepts of health among Indigenous societies place an emphasis on the larger social system within which the individual lives (23–26) and incorporate three familiar concepts: holism, balance, and interconnectedness. In New Zealand, the Maori Public Health Action Plan summarizes three Maori models of health: *Te Pae Mahutonga* (Southern Cross constellation), *Whare Tapa Whā* (health as a house), and *Te Wheke* (the octopus) (23). Of these three models, *Whare Tapa Whā* provides a multi-dimensional concept of Maori health and well-being that extends beyond physical health to recognize the dependence of health on a balance of four main dimensions: *taha wairua* (the spiritual side); *taha hinengaro* (thoughts and feelings); *taha tinana* (the physical side); and *taha whanau* (family) (24). Represented by the four walls of a house, the fundamental crux of this metaphor for health is that if one of these walls should fall, the house will collapse. From Australia, the National Aboriginal Health Strategy Working Party defines health as not just the physical well-being of the individual but the social, emotional, and cultural well-being of the whole community (25). This definition incorporates a *whole-life* view, including the cyclical concept of life-death-life.

The concept of holism is central to ideas of health and wellness among native Hawaiians, as are dimensions of spirituality and culture (26). Traditional native Hawaiian concepts of health encompass cultural values of *lokahi* (balance), *pono* (doing the right thing), and *kokua* (working without expecting reward). These values aim to strengthen and protect the family (extended family), or *ohara*, and larger community, thereby conceptualizing health not as a personal burden but one that is shared by the whole community (26).

**Table 1.1: Health-related Variables from Arctic and Métis Supplemental Surveys**

Métis supplement variables		Arctic supplement variables	
1.	<i>functional difficulty*</i>	1.	<i>functional difficulty</i>
2.	<i>disability</i>	2.	<i>disability</i>
3.	<i>chronic condition</i>	3.	<i>chronic condition</i>
4.	<i>positive social interaction</i>	4.	<i>positive social interaction</i>
5.	<i>emotional support</i>	5.	<i>emotional support</i>
6.	<i>tangible support</i>	6.	<i>tangible support</i>
7.	<i>affection and intimacy</i>	7.	<i>affection and intimacy</i>
8.	<i>perceived social problems</i>	8.	<i>perceived social problems</i>
9.	<b>self-assessed depression</b>	9.	<b>feelings of nervousness</b>
10.	<b>self-assessed spirituality</b>	10.	<b>feelings of calm</b>
11.	<b>number of leisure activities</b>	11.	<b>“blue” feelings</b>
12.	<b>maximum leisure expenditure</b>	12.	<b>feelings of happiness</b>
		13.	<b>“down” feelings</b>
		14.	<b>community participation</b>

\* Variables in bold are those drawn from the Core Survey

## Data and Methods

Our analyses use the 2001 Aboriginal Peoples Survey (APS), which is a rich source of data on the demographic characteristics and living conditions of Indigenous Canadians. The APS was first conducted in the fall of 1991, and its principal purpose was to identify the needs of Indigenous people by focusing on issues of health, language, employment, income, schooling, housing, and mobility. Following the release of the report of the Royal Commission on Aboriginal Peoples (27), which drew heavily on the 1991 data, Statistics Canada was mandated to coordinate a second cycle of the APS in conjunction with numerous national Aboriginal organizations and federal departments representing Aboriginal interests (28). For the 2001 APS, four surveys were developed to capture the cross-cultural variation that exists among the greater Aboriginal population, including:

1. *Core Survey* (all Aboriginal adults 15+ years of age)
2. *Children’s Survey* (all children <15 years of age)
3. *Métis Supplement* (Aboriginal adults identifying Métis status)
4. *Arctic Supplement* (Aboriginal adults residing in Arctic communities) (28)

**Table 1.2: Sample Sizes**

Unit of analysis	n	Unit of analysis	n
Métis full sample	14,127	Inuit full sample	3,979
Métis by gender	7,035	Inuit by gender	1,976
Males	7,092	Males	1,991
Females		Females	
Métis by age	5,256	Inuit by age	1,796*
15-29	7,927	15-29	1,932
30-59		30-59	
60+	944	60+	236
Métis by geographic region	877	Inuit by geographic region	315
Atlantic (Maritime provinces)	1,919	Nunatsiavut	957
Central (Quebec and Ontario)	10,867	Nunavik	
Western (Provinces west of Ontario)	410	Nunavut	1,993
Northern (North of 60° latitude)		Inuvialuit	385
Geographic Region 2	6,786	N/A	
Urban	7,178		
Rural			

\*Not all sub-analyses add up to the total sample sizes; these reflect cases or partial non-response.

The 2001 APS was translated into 17 Aboriginal languages and achieved a response rate of 84.1% across 219 communities (28).

Principal Components Analyses (PCA) methods (29–31) were used to explore the dimensions of Métis and Inuit health. Similar methods have been used to explore health dimensions in other populations (32, 33). In the context of our study, these methods were used to explore correlations between a number of health-related variables from the Métis and Inuit supplements of the 2001 APS, thereby allowing us to examine the broader dimensions of Métis and Inuit health. The variables selected for our analyses included those recognized by Indigenous health concepts (19–22) and relate to health function and disability, social function, social relationships, mental health, community participation and wellness, leisure activity, and spirituality (**Table 1.1** – page 5). Our analyses drew heavily from the Métis and Arctic supplements and also incorporated variables from the Core Survey.

## Results

Our analyses resulted in 11 and nine PCAs respectively on the Métis and Inuit samples (**Table 1.2**). These results are presented in two general sections. Section

**Table 1.3: Inuit Dimensions of Health (n=3,979).**

	<b>Social Support</b> (24.6%, 3.35)*	<b>Personal Wellness</b> (14.4%, 2.01)	<b>Physical Function</b> (12.9%, 1.81)	<b>Community Wellness</b> (7.8%, 1.09)
Emotional support	0.86	0.01	0.01	0.06
Positive social interaction	0.84	-0.07	-0.06	-0.04
Affection and intimacy	0.82	-0.01	-0.01	-0.03
Tangible support	0.77	0.06	0.05	0.00
Feeling blue	0.06	0.72	0.04	0.10
Feeling nervous	0.10	0.70	-0.02	0.02
Feeling down	-0.02	0.65	0.05	-0.02
Feeling calm	0.07	-0.67	0.07	0.04
Feeling happy	0.11	-0.67	0.02	0.05
Disability	0.00	0.00	0.89	-0.07
Functional difficulty	-0.01	0.00	0.86	-0.07
>1 Health condition	0.00	-0.02	0.67	0.20
Community participation	-0.03	-0.14	0.00	0.78
Perceived social problems	0.01	0.17	0.02	0.69

\*The first number represents the percentage of total variance explained by this component. The second number refers to the component's eigenvalue, which represents the amount of variance captured by the component. In a PCA, the first component extracted can be expected to account for a fairly large amount of total variance, and each succeeding component will account for progressively smaller amounts of variance [29].

one describes the dimensions of health for the full Inuit and Métis samples and section two describes results of the sub-analyses, which considered the effects of age, gender, and geographic location on Métis and Inuit health dimensions.

### **Full Inuit Sample**

Four health dimensions emerged from the full Inuit sample (n=3,979), explaining 59% of the total variance: (1) social support, (2) personal wellness, (3) physical function, and (4) community wellness (**Table 1.3**). Social support, the primary dimension, explained 24.6% of the total variance in the observed variables and contained four variables measuring four types of social support: social interaction, emotional support, tangible support, and affection and intimacy. The second dimension, personal wellness, explained 14.4% of the total variance and was formed by five variables designed to measure mental health (i.e., how often in the past month respondent felt down, blue, nervous, calm, and happy). The third dimension, physical function, explained 12.9% of the total variance and included disability, functional difficulty, and chronic condition. The fourth dimension, community wellness, explained 7.8% of the total variance and drew upon the community social problem index and the community participation index. The community wellness dimension represents perceptions about community social

**Table 1.4: Métis Dimensions of Health (n = 14,127)**

	<b>Social Support</b> (26.7%, 3.21)*	<b>Physical Function</b> (16.3%, 1.96)	<b>Physical Fitness</b> (12.1%, 1.46)	<b>Psychosocial Wellness</b> (9.2%, 1.10)
Positive social interaction	0.86	-0.02	0.02	-0.04
Emotional support	0.86	-0.01	0.02	0.02
Affection and intimacy	0.83	0.01	-0.01	0.04
Tangible support	0.78	0.03	0.01	-0.02
Disability	-0.02	0.90	0.06	-0.01
Functional difficulty	0.01	0.90	0.02	-0.08
Chronic condition	0.03	0.57	-0.14	0.17
Number physical activities	0.05	0.07	0.92	0.02
Maximum expenditure	-0.02	-0.09	0.89	0.00
Perceived social problems	-0.01	-0.12	0.05	0.72
Self-assessed spirituality	0.11	0.06	-0.09	0.60
Self-assessed depression	-0.15	0.16	0.08	0.53

\*The first number represents the percentage of total variance explained by this component. The second number refers to the component's eigenvalue, which represents the amount of variance captured by the component. In a PCA, the first component extracted can be expected to account for a fairly large amount of total variance, and each succeeding component will account for progressively smaller amounts of variance [29].

well-being and the extent to which individuals participate in community life as a result.

### **Full Métis Sample**

Four dimensions emerged from the full Métis sample (n=14,127), explaining 64.4% of the total variance in the observed variables: (1) social support, (2) physical function, (3) physical fitness, and (4) psychosocial wellness (Table 1.4). As in the Inuit pattern, social support was the primary dimension, explaining 26.7% of the total variance, and was characterized by four variables: positive social interaction, emotional support, tangible support, and affection and intimacy. The second dimension, physical function, explained 16.3% of the total variance, and consisted of three variables: disability, functional difficulty, and incidence of chronic condition. The third dimension, physical fitness, explained 12.1% of the total variance in the observed variables and reflected a strong correlation between two variables that provide a proxy for one's level of energy expenditure: number of physical activities and maximum expenditure spent on physical activities. The fourth and final dimension of Métis health was psychosocial wellness, which consisted of spirituality, depression, and perceived social problems in the community. It explained 9.2% of the variance.

**Table 1.5: Dimensions of Health for Inuit 60+ Years (n=236)**

	Social Support (12.9%, 3.02)*	Personal Wellness (26.2%, 2.2)	Social Limitations Due to Physical Function (11.7%, 1.63)
Emotional support	0.86	-0.01	-0.08
Affection and intimacy	0.83	0.00	0.07
Positive social interaction	0.78	-0.04	-0.13
Tangible support	0.69	-0.04	0.10
Feeling blue	-0.07	0.67	0.08
Feeling nervous	0.12	0.63	-0.04
Feeling down	-0.14	0.39	0.02
Perceived social problems	0.25	0.36	-0.03
Feeling happy	0.11	-0.61	-0.01
Feeling calm	0.10	-0.68	0.11
Disability	0.02	0.02	0.91
Functional difficulty	0.03	0.04	0.85
> 1 chronic condition	0.24	0.31	0.32
Community participation	0.16	0.17	-0.56

\*The first number represents the percentage of total variance explained by this component. The second number refers to the component's eigenvalue, which represents the amount of variance captured by the component. In a PCA, the first component extracted can be expected to account for a fairly large amount of total variance, and each succeeding component will account for progressively smaller amounts of variance [29].

### ***Sub-analyses by Age, Gender, and Geographic Region***

Numerous sub-analyses tested the reliability of these full sample patterns against the effects of age, gender, and geographic region. With the exception of elderly Inuit and Nunatsiavut Inuit, the four-dimensional patterns observed in the full sample analyses were stable. The effects of age and geographic region were observed in only two of the 18 sub-analyses, and the influence of gender was not significant.

The patterning of health dimensions among Nunatsiavut Inuit (n=315) was the only pattern for which social support was not the primary dimension (**Table 1.5**). In its place was the dimension of personal wellness, explaining 26.2% of the variance in the observed variables. The second dimension was social support, explaining 12.9% of the variance. The remaining dimensions, physical function and community wellness, loaded in a fashion similar to that of other Inuit component solutions, explaining 11% and 7.9% of the variance in the observed variables respectively.

Three dimensions of health emerged from the Inuit 60+ (n=236) sample: (1) social support, (2) personal wellness, and (3) social limitations due to physical

**Table 1.6: Dimensions of Health for Inuit in Nunatsiavut (n=315)**

	Personal Wellness (26.2%, 3.67)*	Social Support (12.9%, 1.81)	Physical Function (11%, 1.53)	Community Wellness (7.9%, 1.11)
Feeling nervous	0.81	0.17	0.01	0.10
Feeling blue	0.75	-0.04	0.09	0.03
Feeling down	0.72	0.08	0.07	-0.31
Feeling calm	-0.52	0.31	0.08	-0.19
Feeling happy	-0.60	0.27	0.18	-0.10
Positive interaction	0.05	0.88	-0.03	-0.13
Affection and intimacy	-0.04	0.78	0.00	-0.03
Emotional support	-0.02	0.78	-0.07	0.22
Tangible support	0.01	0.48	-0.04	0.41
Disability	0.11	0.02	0.84	-0.01
Functional difficulty	0.05	-0.04	0.82	0.00
>1 chronic condition	-0.17	-0.05	0.69	0.16
Community participation	-0.02	0.04	0.07	0.69
Perceived social problems	0.11	0.00	0.08	0.58

\*The first number represents the percentage of total variance explained by this component. The second number refers to the component's eigenvalue, which represents the amount of variance captured by the component. In a PCA, the first component extracted can be expected to account for a fairly large amount of total variance, and each succeeding component will account for progressively smaller amounts of variance [29].

function (**Table 1.6**). This matrix compressed 14 variables into three dimensions instead of four (as was the case among the full Inuit sample), which altered the conceptual meaning of the resulting health dimensions. While the first two dimensions mirrored those found in the full Inuit sample, the third dimension, social limitations due to physical function, demonstrates that aging places limitations on the ability of this population to be active in their community. There is a negative association between physical function and community participation.

## Discussion

Guided by Indigenous perspectives on health (17, 19–22), our analyses describe health dimension patterns among Métis and Inuit populations, and reveal important similarities and differences in these patterns across the considerations of age, gender, and geographic location. To begin, we focus on the dimension of social support, which has a profound and unifying role in shaping concepts of health among Métis and Inuit. Conceptualized by four types of social support (positive social interaction, emotional support, tangible support, and affection and intimacy), this dimension reliably explained a substantial amount of variance among observed variables, even when taking into consideration age, gender, and geographic location. Social support is a well-recognized dimension of health in



Western (34–40) and other Indigenous (24, 26, 41–44) societies, **but few studies** have captured empirically how this relationship is expressed among Canadian Indigenous peoples (8, 45–48).

Our results also indicate important differences in health dimension patterns for Métis and Inuit populations. For instance, physical fitness and psychosocial well-being formed dimensions unique to the Métis, while dimensions of personal wellness and community wellness were exclusive to the Inuit. Part of this difference may be accounted for by the measures available in the survey tool. In comparison to the pointed nature of the Arctic supplement variables, which probed known Inuit-related topics (e.g., relationships with the physical environment), variables in the 1991 and 2001 Métis supplements were exploratory. In comparison with First Nations and the Inuit, there is a scarcity of data on Métis demographics and conditions (i.e., health, education, employment, etc.) (3, 4). In terms of our analyses, the substantive difference across survey supplements meant that only a small number of health variables from the Core Survey were available for comparative analyses. While this was undoubtedly influential on the emergent pattern of health dimensions, careful thought went into selecting variables that were consistent with our conceptual framework.

While most intra-status analyses indicated a fairly homogeneous patterning of health dimensions (i.e., within Inuit *or* within Métis cultures), the ordering of the health dimensions for Nunatsiavut Inuit was different; personal wellness loaded as the primary dimension of health. This difference reflected the significance of mental health among Nunatsiavut Inuit as opposed to social support, which formed the principal dimension among all other Inuit analyses. While our analyses do not permit an explanation of the meaning behind the ordering of the dimensions of health among the Nunatsiavut and why Inuit patterns differ across geographic region, that there is difference across Inuit regions serves to highlight the geographic and cultural heterogeneity across Inuit peoples. That is, despite having a common Inuit status, the populations of each Arctic region (i.e., Nunavik, Nunavut, Nunatsiavut, and Inuvialuit) are independent political bodies covering vast geographic spaces, and each has a unique physical, cultural, and social environment.

While the most profound finding of our results points to the universal importance of social support, our analyses also affirm that conceptualizations of health within these two populations are multidimensional (49). Métis and Inuit conceptualizations of health and healing are shaped by an individual's physical characteristics (e.g., a chronic condition, disability, physical fitness, mental health), and also by characteristics of their families and communities (e.g., social support, social problems in community, community wellness). The blurring of the line between individual and societal characteristics was demonstrated in the third dimension of elderly Inuit health, "social limitations due to physical function," which suggests that their failing physical bodies constrain them from being active members of the community. Such fluidity of health constructs was also demonstrated in the Métis

dimension of psychosocial wellness, which encompassed spirituality, depression, and community social problems.

In the context of Indigenous health policy, there is a great need for official efforts to promote health that encourage the interaction of these multiple dimensions (49), particularly those which connect individuals to their communities (16–18). Canadian health policy has failed to encourage the development of programs that promote health via social supports or community connections. As Bartlett (15) illuminates, the majority of Indigenous health policies stem from an “illness-based health care system” that attempts to treat individuals rather than populations. Such policies strive to modify individual behaviours and actions, rather than aiming at community or population-level behaviours. This approach fails to recognize that it is within the larger community context that health behaviours are learned and normalized (50). Much work remains in making health policy and research that is grounded in the societal contexts of Indigenous communities (16–18).

## **Conclusion**

Indigenous health research has tended to examine the Indigenous population of Canada as if it were a relatively homogeneous one, with little recognition of its broad cultural and geographic variation. Because of sizable disparities between Indigenous and non-Indigenous populations, and also because of limited data on Inuit and Métis populations, researchers have been more or less validated in this practice. Our paper moves beyond this paradigm by exploring the dimensions of health within Canada’s Inuit and Métis populations and considers the stability of these dimensions across and within cultural and geographical contexts.

Informed by cultural frameworks of health (16, 18–24) and based on data from the 2001 APS, our analyses support four dimensions of Métis health (social support, physical function, physical fitness, and psychosocial wellness) and four dimensions of Inuit health (social support, personal wellness, physical function, and community wellness). Perhaps the greatest contribution of this work points to the significance of the dimension of social support, which has emerged consistently as the principal health dimension among numerous analyses of Métis and Inuit attitudes towards health. While no difference emerged as a result of gender, key differences emerged in analyses of testing age (i.e., elderly Inuit) and geographic location (i.e., Nunatsiavut Inuit).

Given the exploratory nature of these analyses, further research is needed to estimate the predictive capacity of social support on Indigenous health. Our conceptually based analyses provide a solid base of variables which may better inform subsequent analyses of health determinants. Qualitative research may also enhance our understanding of the relationship between Indigenous health and social support, particularly in exploring Indigenous-specific sources and meanings of social support and examining the mechanisms that structure this relationship.

In terms of their health and social conditions, Canada's Indigenous peoples continue to fare among the worst in Canada (2–5). Improving quality of life among Canada's Indigenous population requires health policy and programs that are inclusive (17, 18), community-based, and informed by holistic models that recognize the multiple, interacting dimensions of Indigenous people's health (16, 19–24). A piecemeal health policy that enables individuals, rather than communities, is just not sufficient (15), and our analyses provide some evidence to substantiate this conclusion. In all but one pattern of health dimensions, social support was the main dimension of health. Amid the extreme social dysfunction we witness in many Indigenous communities across Canada today, it is meaningful that our analyses have resulted in this finding. Despite a legacy of colonialism, it is remarkably *hopeful* that concepts and ideals central to Indigenous world views remain so strong today. Now is the time to put action behind words. Improving quality of life among Canadian Indigenous peoples requires more than the identification of health problems and risk factors. By working *with* and respecting the world views of Indigenous peoples, public policy can play a vital role in mobilizing Indigenous communities to move from suffering to equality and health.

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## Endnotes

- 1 The federal government of Canada legally recognizes Indigenous Peoples of Canada through the Constitution Act (1982) as “Aboriginal,” a population encompassing “First Nations, Métis and Inuit.” In referring to Aboriginal Peoples, we choose to use the term “Indigenous,” the exception being in cases wherein we refer explicitly to federal terms and references (as in the federal survey, the Aboriginal Peoples Survey, from which the data of this manuscript originate).
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