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# Social Support and Thriving Health: A New Approach to Understanding the Health of Indigenous Canadians

Chantelle A.M. Richmond, PhD, Nancy A. Ross, PhD, and Grace M. Egeland, PhD

The early 1990s were a politically turbulent time for Canada's indigenous peoples. What began as one community's struggle over land rights quickly escalated into nationwide frustration over Canada's colonial legacy and the environmental, economic, and social marginalization that has transformed the health status of First Nations, Métis, and Inuit peoples, the 3 groups that constitute Canada's indigenous population. First Nations form the largest of the 3 groups (numbering approximately 600000) and are geographically dispersed on reservations and in rural and urban communities below Canada's Arctic (the 60th parallel). Métis, the second most populous group (numbering approximately 300000), generally live in the contiguous provinces west of and including Ontario. Historically, Métis were the descendents of French and English fur traders who took Indian wives. The Inuit are Canada's northernmost peoples; they number approximately 45000 and live in a number of communities across Canada's Arctic (i.e., above the 60th parallel). Combined, Canada's indigenous peoples constitute 3.4% of the nation's population, and they cope with a standard of living far below that of the nonindigenous population.<sup>1,2</sup> The social suffering of Canada's indigenous population is indicated by staggering rates of suicide among youths, family violence, and other self-destructive and violent behaviors.3,4

Researchers have taken a keen interest in the determinants of indigenous health,<sup>5</sup> including poverty,<sup>6–10</sup> violence,<sup>11</sup> and access to health care.<sup>12,13</sup> Given the health-related and social adversities faced by indigenous Canadians, identification of the health outcomes associated with these adversities has been useful in policy development (e.g., in the establishment of Aboriginal Head Start, an early childhood development program). Particularly useful is the recognition that indigenous concepts of health are shaped by larger social dynamics, including family, community, nature, and Creator.<sup>14,15</sup> Researchers, however, *Objectives.* We examined the importance of social support in promoting thriving health among indigenous Canadians, a disadvantaged population.

*Methods.* We categorized the self-reported health status of 31625 adult indigenous Canadians as thriving (excellent, very good) or nonthriving (good, fair, poor). We measured social support with indices of positive interaction, emotional support, tangible support, and affection and intimacy. We used multivariable logistic regression analyses to estimate odds of reporting thriving health, using social support as the key independent variable, and we controlled for educational attainment and labor force status.

*Results.* Compared with women reporting low levels of social support, those reporting high levels of positive interaction (odds ratio [OR] = 1.4; 95% confidence interval [CI] = 1.2, 1.6), emotional support (OR = 2.1; 95% CI = 1.8, 2.4), and tangible support (OR = 1.4; 95% CI = 1.2, 1.5) were significantly more likely to report thriving health. Among men, only emotional support was significantly related to thriving health (OR = 1.7; 95% CI = 1.5, 1.9). Thriving health status was also significantly mediated by age, aboriginal status (First Nations, Métis, or Inuit), educational attainment, and labor force status.

*Conclusions.* Social support is a strong determinant of thriving health, particularly among women. Research that emphasizes thriving represents a positive and necessary turn in the indigenous health discourse. (*Am J Public Health.* 2007;97: 1827–1833. doi:10.2105/AJPH.2006.096917)

have so concentrated their efforts on the determinants of *disparities* that few have sought to model *thriving* health. In particular, there has been a lack of research into how one's societal resources, such as social support, can shape health status.

### THE CONCEPT OF THRIVING

The concept of thriving, as used in resiliency literature, refers to one's ability to flourish in response to adversity.<sup>16</sup> In the context of health and well-being, a human resiliency framework is useful for identifying characteristics that may be associated with positive health outcomes among those who experience increased risk.<sup>17</sup> As O'Leary and Ickovics<sup>18</sup> have stated, knowledge of the factors that promote thriving can provide impetus for a paradigm shift away from illnessbased research toward an approach that understands, explains, and nurtures health. Such an approach represents a critical turn for indigenous health researchers.

### **HEALTH AND SOCIAL SUPPORT**

The health-protective properties of social support are well established.<sup>19-22</sup> Social support refers to 4 broad classes of supportive behavior or acts.<sup>23</sup> Positive interaction refers to the support a person receives from spending time with others in social settings. Emotional support refers to guidance and feedback that may help a person find a solution to a problem. Tangible support refers to material aid, such as having someone take you to the doctor. Affection and intimacy relate to caring, love, and empathy. These supportive behaviors operate on the level of the individual<sup>22</sup> and the community,<sup>24</sup> and it is the connections between the individual and larger society that provide opportunities for the development of social supports.<sup>21</sup>

The caring and respect we receive through our social ties and the resulting sense of satisfaction and well-being can buffer against health problems.<sup>25,26</sup> In fact, research suggests that the health effects of social relationships

may be as important as the effects of established risk factors such as smoking, obesity, and high blood pressure.<sup>27–33</sup> Although many studies focus on the positive effects of social supports on health, certain aspects of social interaction can be harmful.<sup>34,35</sup> For instance, obligatory social ties can produce stressful demands that cancel or outweigh the positive consequences for self-esteem, competence, or identity.<sup>36</sup> Social ties can also reinforce social pressures to engage in negative health behaviors<sup>37</sup> (e.g., alcoholism, risky sexual activity).

Few studies have explored the relationship between social support and health in the context of Canada's indigenous population. Richmond et al.38 performed a series of principalcomponents analyses on data from Canada's 2001 Aboriginal Peoples Survey and found social support to be a significant dimension of Métis and Inuit health, even after they had controlled for cultural and geographic heterogeneity. When Daniel et al.<sup>39</sup> explored the relationship between smoking status and psychosocial measures in a British Columbia First Nation community, they found a positive relationship between social support and mastery (defined as the degree to which individuals feel in control of their lives; the relationship was weaker for smokers than nonsmokers). Another study used focus group interviews to better understand the ways in which aboriginal people with diabetes cope with stress.<sup>40</sup> A key emerging theme was that of interdependence and connectedness; social supports provide an opportunity for sharing problems and feelings and for gaining encouragement and strength.40

In exploring and measuring concepts related to the structure of social relationships in First Nations communities (e.g., norms of reciprocity), Mignone<sup>41</sup> developed a social capital theoretical framework. Mignone and O'Neil<sup>42</sup> applied this framework in the context of mental health and conceptualized plausible mechanisms linking social capital to suicide risk and protective factors among First Nations youths. According to this framework, rates of suicide and suicide attempts should decrease with higher levels of social capital.

Similar connections have been established among indigenous populations from around the globe,<sup>43–50</sup> suggesting that indigenous health is dependent on social processes and connections between individuals, families, and communities.<sup>14,15,47</sup> Because the structure and function of individuals' social relationships can affect the development of community norms and values,<sup>51,52</sup> it is critical that we understand how social support can shape health status within Canada's indigenous populations.

#### **METHODS**

To explore thriving health and the role of social support in promoting thriving health in Canada's indigenous population, we applied a series of multivariable logistic regression analyses to data from a large sample of adults  $(n=31\ 625)$  who participated in Canada's 2001 Aboriginal Peoples Survey (APS). The APS is a postcensal survey designed to describe the demographic and social conditions of participating indigenous Canadians. The 2001 APS was translated into 17 (of approximately 50) Canadian indigenous languages and achieved a response rate of 84.1% across 219 indigenous communities (123 First Nations communities [reserves], 53 Inuit communities in Arctic regions, 38 communities with a minimum indigenous population of 250 and a concentration of 40% or more indigenous people, and 5 additional communities with a large number of indigenous people).53 Approximately 7% of Canada's indigenous population was surveyed by the 2001 APS. Informed by a series of principal-components analyses indicating social support to be a powerful dimension of indigenous health,38 we used an incremental modeling approach to explore the relative role of social support in explaining thriving health (defined as selfreported health status of "excellent" or "very good" in the 2001 APS). Although not a direct measure of health status, self-assessed health is a well-established proxy54,55 and is highly correlated with mortality, morbidity, and health care utilization.56,57

Social support, our key independent variable, was measured by indices of 4 types of social support: positive interaction, emotional support, tangible support, and affection and intimacy. There were 3 questions each for positive interaction and emotional support, 1 for tangible support, and 1 for affection and intimacy. (A list of the questions used is available as a supplement to the online version of this article at http://www.ajph.org.) Respondents indicated how often each type of support was available to them when they needed it. Those who responded "some of the time" or "almost none of the time" were considered to have low levels of social support. Those who responded "most of the time" or "all of the time" were considered to have high levels of social support.

We tested 3 models. In each one, we controlled for an incrementally expanded set of population health variables. We hypothesized that thriving health would be associated with high levels of social support, even when the effects of other known determinants of health—such as socioeconomic status, health care utilization, and health behaviors—were taken into consideration. Our descriptive analyses (Tables 1 and 2) showed that men's and women's responses were different enough to suggest separate models for men and women.

### RESULTS

#### **Thriving Health Status**

Slightly more than half of the respondents (54%) reported thriving health status. Although this proportion is comparable to the overall Canadian proportion of 58.4%, there are considerable differences in the structure of the indigenous and nonindigenous populations (e.g., in 2001 the median age of the indigenous population was 24.7 years, compared with 36.0 years for the nonindigenous population). Men were more likely than were women to report thriving health, and the percentage reporting thriving health was greatest in the youngest age group (Table 1). Métis and Inuit were significantly more likely to report thriving health than were First Nations respondents. Respondents living in urban areas (which are concentrated in southern Canada) were more likely to report thriving health than were those in rural and northern areas. We saw higher proportions of respondents with thriving health status among those with higher levels of education and those who were employed. Nearly 70% of those who had not seen a doctor or nurse in the previous 12 months reported thriving health, as did more than half of those with access to traditional medicines. Nonsmokers were significantly more likely than were smokers to

TABLE 1—Proportion of Indigenous Canadians (n = 31 625) Reporting Thriving Health, by Selected Health Determinants: Aboriginal Peoples Survey, 2001

	No. <sup>b</sup>	% Reporting Thriving Health <sup>a</sup>
		noun
Gender	45.000	00++
Male	15389	60**
Female	16236	56
Age, y	0.005	00++
15-24	9035	69**
25-39	11417	62
40-64	10324	47
≥65	823	27
Aboriginal status		
Métis	10195	61**
Inuit	2782	59
First Nations	18604	56
Location		
Urban	11 159	60**
Rural/north	20466	57
Education		
Postsecondary <sup>c</sup>	1683	68**
Trade school	12701	59
High school	3918	65
Less than high school	13315	54
Employment status		
Employed	19396	61**
Unemployed	3448	56
Not in labor force	8467	54
Access to health services		
Had contact with doctor or nurse in previous 12 mo	23861	55**
Did not have contact with doctor or nurse in previous 12 mo	7 764	67
Traditional medicines available	12402	57*
Traditional medicines unavailable	19223	59
Health behaviors <sup>d</sup>	14000	C0++
Nonsmoker	14300	62**
Smoker	17 325	55
Nondrinker	9935	54**
Drinker	21 690	60

<sup>a</sup>Thriving health was defined as self-reported health status of "excellent" or "very good."

<sup>b</sup>Numbers do not always add up to total because of missing responses.

<sup>c</sup>Defined as having at least 1 year of postsecondary education.

<sup>a</sup>A smoker was defined as someone who reported smoking "daily" or "occasionally." A nonsmoker was defined as someone who reported never smoking. A drinker was defined as someone who reported being a "regular" or "occasional" drinker. A nondrinker was defined as someone who self-identified as a "nondrinker." \*P<.01; \*\*P<.001 (χ<sup>2</sup> test). TABLE 2—Percentage of Indigenous Canadians (n = 31 625) Reporting High Levels of Social Support, by Selected Health Determinants: Aboriginal Peoples Survey, 2001

	Type of Social Support <sup>a</sup>			
	Positive Interaction	Emotional Support	Tangible Support	Affection and Intimacy
Gender				
Female	91	89*	85	91*
Male	91	86	85	88
Age, y				
15-24	93*	90*	87*	91*
25-59	90	87	83	90
40-64	89	85	84	88
≥65	82	78	83	84
Aboriginal status				
Métis	92*	91*	89*	92*
First Nations	90	86	84	89
Inuit	89	80	75	85
Location				
Urban	91**	90*	87*	91*
Rural/north	90	86	84	89
Education				
Postsecondary <sup>b</sup>	92*	93*	88*	93*
Trade school	91	89	86	91
High school	92	90	88	91
Less than high school	89	84	82	88
Employment status				
Employed	92*	89*	86*	91*
Not in labor force	89	85	83	88
Unemployed	90	84	81	88

<sup>a</sup>There were 3 questions each for positive interaction and emotional support, 1 for tangible support, and 1 for affection and intimacy. Respondents indicated how often each type of support was available to them when they needed it. Those who responded "some of the time" or "almost none of the time" were considered to have low levels of social support. Those who responded "most of the time" or "all of the time" were considered to have high levels of social support. See "Methods" section for definitions of these properties of social support.

<sup>b</sup>Numbers do not always add up to total because of missing responses.

\*P < .01; \*\*P < .001 ( $\chi^2$  test).

report thriving health, and nondrinkers were significantly less likely than were drinkers to report thriving health.

#### **Social Support**

Respondents reported high levels of all types of social support (Table 2). A significantly greater number of young adults than older adults reported high levels of social support; this difference was most pronounced for emotional support (90% of respondents aged 15 to 24 years reported high levels vs 78% of respondents aged 65 years and older). Although the percentages of men and women reporting high levels of positive interaction and tangible support were identical, more women reported high levels of emotional support and affection and intimacy. For all types of social support, Métis respondents were most likely to report high levels, followed by First Nations respondents and then Inuit respondents. The greatest differences between Métis and Inuit were for tangible support and emotional support. For all types of social support, a larger proportion of urban respondents, compared with northern or rural respondents, reported high levels. There was a distinct social gradient for all types of social support: respondents who were employed

and those with higher levels of education were significantly more likely than were others to report high levels of support.

We observed differences between men and women in the relationship between thriving health and social support. Among women (Table 3), all types of social support were related to thriving health, even when the effects of numerous other health determinants were considered. Compared with women reporting low levels of social support, those reporting high levels of positive interaction (odds ratio [OR]=1.4; 95% confidence interval [CI]=1.2, 1.6), emotional support (OR=2.1; 95% CI=1.8, 2.4), and tangible support (OR = 1.4; 95% CI = 1.2, 1.5) were significantly more likely to report thriving health. Surprisingly, a high level of affection and intimacy was negatively associated with thriving health (OR=0.9; 95% CI=0.7, 0.99). Among men (Table 4), only emotional support was significantly related to thriving health. Men with high levels of emotional support were 1.7 (95% CI=1.5, 1.9) times as likely as were those with low levels to report thriving health.

#### **Other Determinants of Health**

In terms of the wider determinants of thriving health<sup>58,59</sup> (Tables 3 and 4), our findings reinforce the relationships between self-rated health and a number of sociodemographic factors, environmental conditions, and health behaviors previously identified in the indigenous<sup>60</sup> and general Canadian populations.<sup>61</sup> Thriving health decreased with increased age. Métis women had slightly higher odds of reporting thriving health than did First Nations women, and Métis men had slightly lower odds of reporting thriving health than did First Nations men. Higher levels of education and participation in the workforce were significantly related to thriving health, and notably, the effect of postsecondary education was stronger for women (OR=2.3; 95% CI=2.0, 2.7) than for men (OR=1.7; 95% CI=1.4, 2.0). Lower perceived incidence of social problems (suicide, unemployment, family violence, sexual abuse, drug abuse, alcohol abuse) in the community was positively associated with thriving health.

In terms of environmental determinants, the effect of having no major home repairs (roofing, other structural components) to do was significantly related to thriving health. Availability of traditional medicines was TABLE 3—Adjusted Odds Ratios (AORs) for Reporting Thriving Health Among Indigenous Canadian Women (n = 16236), by Social Support and Other Determinants of Health: Aboriginal Peoples Survey, 2001

	AOR (95% CI)
Age, y	
15-24 (Ref)	1.00
25-59	1.00 (0.91, 1.10)
40-64	0.76 (0.60, 0.84
≥65	0.32 (0.24, 0.44
Aboriginal status	
First Nations (Ref)	1.00
Métis	1.16 (1.08, 1.25
Inuit	1.08 (0.90, 1.29
Location	
Rural/north (Ref)	1.00
Urban	1.04 (0.96, 1.12)
Education	
Less than high school (Ref)	1.00
Trade school	1.44 (1.32, 1.57)
High school	1.40 (1.25, 1.57
Postsecondary <sup>a</sup>	2.34 (2.02, 2.71
Employment status	
Unemployed (Ref)	1.00
Employed	1.15 (1.0, 1.31)
Not in labor force	0.96 (0.83, 1.10
Access to health services	
Had contact with a doctor	1.00
or nurse in previous	
12 mo (Ref)	
Had no contact with a doctor	0.64 (0.58, 0.70)
or nurse in previous	
12 mo	
Traditional medicines	1.00
available (Ref)	
Traditional medicines	1.12 (1.04, 1.21)
unavailable	
Social support <sup>b</sup>	
Positive interaction (Ref)	1.00
High positive interaction	1.35 (1.16, 1.57)
Low emotional support (Ref)	1.00
High emotional support	2.10 (1.80, 2.44
Low tangible support (Ref)	1.00
High tangible support	1.38 (1.23, 1.54
Low affection and intimacy	1.00
(Ref)	

#### **TABLE 3**—Continued

Community social problems <sup>c</sup>	
$\geq$ 2 (Ref)	1.00
<2	1.16 (1.07, 1.23)
Physical health	
$\geq\!1$ chronic condition (Ref)	1.00
0 chronic conditions	2.42 (2.25, 2.60)
Any disability (Ref)	1.00
No disability	3.79 (3.35, 4.28)
Environmental factors	
Water unsafe for drinking	1.00
(Ref)	
Water safe for drinking	1.00 (0.92, 1.09)
Major house repairs	1.00
needed (Ref)	
No major house repairs	1.25 (1.15, 1.36)
needed	
Health behaviors <sup>d</sup>	
Drinker (Ref)	1.00
Nondrinker	0.89 (0.82, 0.97)
Smoker (Ref)	1.00
Nonsmoker	1.41 (1.31, 1.51)

Note. CI = confidence interval.

<sup>a</sup>Thriving health was defined as self-reported health status of "excellent" or "very good."

<sup>b</sup>There were 3 questions each for positive interaction and emotional support, 1 for tangible support, and 1 for affection and intimacy. Respondents indicated how often each type of support was available to them when they needed it. Those who responded "some of the time" or "almost none of the time" were considered to have low levels of social support. Those who responded "most of the time" or "all of the time" were considered to have high levels of social support. See "Methods" section for definitions of these properties of social support. <sup>c</sup>Defined as suicide, unemployment, family violence, sexual abuse, drug abuse, and alcohol abuse in the community.

<sup>d</sup>A smoker was defined as someone who reported smoking "daily" or "occasionally." A nonsmoker was defined as someone who reported never smoking. A drinker was defined as someone who reported being a "regular" or "occasional" drinker. A nondrinker was defined as someone who self-identified as a "nondrinker."

associated with thriving health only among women. Smoking was negatively associated with thriving health only among women, and drinkers were significantly more likely to report thriving health than were nondrinkers.

### DISCUSSION

Our analyses demonstrate significant relationships between thriving health in indigenous Canadians and a number of determinants,

TABLE 4—Adjusted Odds Ratios (AORs) for Reporting Thriving Health Among Indigenous Canadian Men (n = 15389), by Social Support and Other Determinants of Health: Aboriginal Peoples Survey, 2001

	AOR (95 % CI)
Age, y	
15-24 (Ref)	1.00
25-59	0.68 (0.61, 0.76)
40-64	0.42 (0.38, 0.46)
≥65	0.32 (0.24, 0.42)
Aboriginal status	
First Nations (Ref)	1.00
Métis	0.88 (0.81, 0.94)
Inuit	1.01 (0.83, 1.21)
Location	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Rural/north (Ref)	1.00
Urban	1.03 (0.95, 1.12)
Education	1.11 (1.02, 1.20)
Less than high school (Ref)	1.00
Trade school	1.26 (1.21, 1.41)
High school	1.23 (1.13, 1.34)
Postsecondary <sup>a</sup>	1.69 (1.43, 2.03)
Employment status	
Unemployed (Ref)	1.00
Employed	0.68 (0.75, 0.99)
Not in labor force	1.32 (1.17, 1.48)
Access to health services	
Had contact with a doctor	1.00
or nurse in previous	
12 mo (Ref)	
Had no contact with a	0.97 (0.90, 1.05)
doctor or nurse in	
previous 12 mo	
Traditional medicines	1.00
available (Ref)	
Traditional medicines	0.93 (0.86, 1.01)
unavailable	,
Social support <sup>b</sup>	
Positive interaction (Ref)	1.00
High positive interaction	1.17 (0.99, 1.37)
Low emotional support (Ref)	1.00
High emotional support	1.67 (1.45, 1.92)
Low tangible support (Ref)	1.00
High tangible support	1.12 (0.99, 1.28)
Low affection and intimacy	1.00
(Ref)	
High affection and intimacy	0.94 (0.81, 1.09)

#### TABLE 4—Continued

Community social problems <sup>c</sup>		
$\geq$ 2 (Ref)	1.00	
<2	1.11 (1.02, 1.20)	
Physical health		
$\geq$ 1 chronic condition (Ref)	1.00	
0 chronic conditions	2.48 (2.30, 2.68)	
Any disability (Ref)	1.00	
No disability	2.81 (2.49, 3.17)	
Environmental factors		
Water unsafe for drinking	1.00	
(Ref)		
Water safe for drinking	0.97 (0.88, 1.07)	
Major house repairs	1.00	
needed (Ref)		
No major house repairs	1.33 (1.22, 1.45)	
needed		
Health behaviors <sup>d</sup>		
Drinker (Ref)	1.00	
Nondrinker	0.96 ( 0.88, 1.05)	
Smoker (Ref)	1.00	
Nonsmoker	1.63 (1.51, 1.76)	

Note. CI = confidence interval.

<sup>a</sup>Thriving health was defined as self-reported health status of "excellent" or "very good." <sup>D</sup>There were 3 questions each for positive interaction and emotional support, 1 for tangible support, and 1 for affection and intimacy. Respondents indicated how often each type of support was available to them when they needed it. Those who responded "some of the time" or "almost none of the time" were considered to have low levels of social support. Those who responded "most of the time" or "all of the time" were considered to have high levels of social support. See "Methods" section for definitions of these properties of social support. <sup>c</sup>Defined as suicide, unemployment, family violence, sexual abuse, drug abuse, and alcohol abuse in the community. <sup>d</sup>A smoker was defined as someone who reported

A sincher was defined as someone who reported smoking "daily" or "occasionally." A nonsmoker was defined as someone who reported never smoking. A drinker was defined as someone who reported being a "regular" or "occasional" drinker. A nondrinker was defined as someone who self-identified as a "nondrinker."

including social support. Age was a vital determinant of both thriving health and social support. Younger indigenous people were significantly more likely to report thriving health than were older indigenous people, and they also reported higher levels of all types of social support. Although the latter finding disagrees with those from the nonindigenous population,<sup>61</sup> the difference may be related to the younger age of the indigenous population (relative to the general population) and may be reflective of a shift in social support needs from the elderly to that of a young and quickly growing population.

We found a considerable difference between men and women in the relationship between social support and thriving health. The stronger effect of social support on the health of women also has been documented in the general Canadian population<sup>62</sup>; however, the causal pathways through which gender mediates the relationship between social support and health are not well understood.<sup>63</sup> Studies have shown either that women report more perceived support than do men or that men and women do not differ in this resource.  $^{64-66}$ Involvement in social networks may also vary by educational attainment and labor force status. For instance, although men may have a larger pool of weak ties (related to their increased employment opportunities), women tend to invest more in their relationships,67 thereby forming stronger, more-intense ties.64 Other explanations<sup>68,69</sup> suggest that women are exposed to more demands and obligations as a result of their social roles and that they experience more stressful life events than do men, both of which can affect health. Clearly, the gender influences underpinning the relationship between health and social support are important and deserve further exploration.

Another important finding relates to the negative association between high levels of affection and intimacy and thriving health among women. That the nature of one's social ties can cause harm is an underemphasized dimension of the relationship between social support and health.<sup>35,36</sup> Because we form our sense of self or identity in the context of meaningful social ties,70 negative influences can have as strong an effect on identity formation as positive influences. This phenomenon becomes increasingly complex in populations that exhibit high levels of social support but for whom the effect of such integration on its members is not protective for health (e.g., populations subject to partner abuse or gang violence).

Beyond the importance of age and gender in mediating the relationship between social support and thriving health, we consistently found a positive relationship between thriving health and measures of educational attainment and labor force status.<sup>71</sup> Among indigenous

peoples, thriving health relies on strong social supports, meaningful employment, and educational attainment. Despite variations in context between Canadian indigenous peoples and those communities from which the classic social support–health studies originated (e.g., Alameda County, Calif<sup>27</sup>; Tecumseh, Mich<sup>28</sup>; Evans County, Ga<sup>29</sup>), the results indicate a strong parallel; social support enhances health.

The analyses presented here are among the first to use health data from the 2001 APS. The limitations of these analyses are related to the use of secondary data. For example, we found differences in social support across aboriginal status, and we cannot discount the possibility that these differences may have resulted from differences in the questions as they were translated for different linguistic groups. In the case of levels of tangible support reported by Inuit respondents, the discrepancy may also be related to the content validity of the measure, which asked "How often do you have someone to take you to the doctor if you need it?" Many Arctic communities have no permanent health professional; one must travel by air to seek medical attention, and it would be prohibitively expensive to be accompanied. For the Inuit, this question may reflect the impact of geographic isolation on access to health care more than it does tangible support. A more culturally and geographically informed measure is necessary for the assessment of this type of social support among Inuit respondents.

Indigenous health research has focused largely on the determinants of disparity, revealing the health and social adversities endured by indigenous Canadians. We examined the influence of social support and other health determinants in shaping thriving health among indigenous men and women. Significantly more men than women reported thriving health, and women reported higher levels of emotional support and affection and intimacy than did men. All types of social support were related to thriving health among women, whereas only emotional support was significantly related to thriving health among men. Although we can only speculate on the causal pathways through which gender mediates the relationship between health and social support, our analyses demonstrate the

importance of social support above and beyond traditional health determinants. We hope that these results may draw greater research attention to the effects of gender on the relationship between social support and health. Finally, our results emphasize the importance of educational attainment and labor force status for health, and they also validate population health approaches for better understanding patterns of indigenous health.

In the years following the United Nation's Decade of Indigenous Peoples (1995-2004), indigenous health research that emphasizes thriving rather than disparities represents a positive and necessary turn in the discourse. Many of the health disparities borne by indigenous peoples around the globe result from systemic forces' severing indigenous peoples' connections to their traditional environments while simultaneously disrupting the social systems that are integral to their maintenance of identity, culture, and health.<sup>72</sup> To better understand the determinants of thriving health, researchers need more-intensive methods of exploring these relationships, perhaps by qualitatively examining people's perceptions about the processes through which social supports may be embodied as health outcomes.<sup>1,21,73</sup> Among indigenous peoples, richer exploration may illuminate the means by which one's social ties mediate or exacerbate the effects on health of larger, structural forces such as colonialism and racism.

Such methods are critical for contextualizing health and social issues in terms of time and place and for informing public health interventions and policy that will make sense to local people. Public programs may have a greater health effect if they build on positive social interactions at the community level. By focusing on the strength and utility of social support for health, we set the stage for a paradigm that empowers indigenous communities to focus less on disparities and more on the spirit of the people to thrive, unified, well into the future.

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#### **Contributors**

C.A.M. Richmond originated the study, performed all analyses, led the writing, and worked closely with N.A. Ross and G.M. Egeland to construct the models explored in the analyses. All authors helped to generate ideas, interpret findings, and review drafts of the article.

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No protocol approval was required for this study.

#### References

1. Adelson N. The embodiment of inequality: health disparities in aboriginal Canada. *Can J Public Health.* 2005;96:S45–S61.

2. Richmond C, Elliott SJ, Matthews R, Elliott B. The political ecology of health: perceptions of environment, economy, health and well-being among 'Namgis First Nation. *Health Place*. 2005;11:349–365.

3. A Statistical Profile on the Health of First Nations in Canada. Ottawa, Ontario: Health Canada, First Nations and Inuit Health Branch; 2003.

4. Tester FJ, McNicoll P. Isumagijaksaq: mindful of the state: social constructions of Inuit suicide. *Soc Sci Med.* 2004;58:2625–2636.

5. Young TK. *The Health of Native Americans: Toward a Biocultural Epidemiology.* New York, NY: Oxford University Press; 1994.

6. Thouez JP, Rannou A, Foggin P. The other face of development: native population, health status and indicators of malnutrition—the case of the Cree and Inuit of northern Quebec. *Soc Sci Med.* 1989;29:965–974.

 MacMillan HL, MacMillan AB, Offord DR, Dingle JL. Aboriginal health. *Can Med Assoc J.* 1996;155: 1569–1578.

8. Tookenay VF. Improving the health status of aboriginal people in Canada: new directions, new responsibilities. *Can Med Assoc J.* 1996;155:1581–1583.

9. Moffat T, Herring A. The historical roots of high rates of infant death in aboriginal communities in Canada in the early twentieth century: the case of Fisher River, Manitoba. *Soc Sci Med.* 1999;48:1821–1832.

10. Frohlich K, Ross NA, Richmond C. Health disparities in Canada today: some evidence and a theoretical framework. *Health Policy*. 2006;79:132–143.

11. Muhajarine N, D'Arcy C. Physical abuse during pregnancy: prevalence and risk factors. *Can Med Assoc J.* 1999;160:1007–1011.

12. Waldram JB, Herring DA, Young TK. Aboriginal

Health in Canada: Historical, Cultural, and Epidemiological Perspectives. Toronto, Ontario: University of Toronto Press; 1995.

13. Newbold KB. Problems in search of solutions: health and Canadian aboriginals. *J Community Health*. 1998;23:59–73.

14. Svenson KA, Lafontaine C. The search for wellness. In: McDonald G, ed. *First Nations and Inuit Regional Health Survey, National Report.* Ottawa, Ontario: First Nations and Inuit Regional Health Survey National Steering Committee; 1999:181–216.

15. Boyd & Associates. *Inuksiutiin Health Information Framework*. Ottawa, Ontario: Inuit Tapiriit Kanatami; 2002.

16. Rutter M. Resilience in the face of adversity: protective factors and resistance to psychiatric disorder. *Br J Psychiatry.* 1985;147:598–611.

17. Carver C. Resilience and thriving: issues, models and linkages. *J Soc Issues*. 1998;54:245–266.

18. O'Leary VE, Ickovics JR. Resilience and thriving in response to challenge: an opportunity for a paradigm shift in women's health. *Womens Health.* 1995;1: 121–142.

19. Cohen S, Syme SL. Issues in the study and application of social support. In: Cohen S, Syme SL, eds. *Social Support and Health.* Orlando, Fla: Academic; 1985:3–22.

20. House JS, Landis KR, Umberson D. Social relationships and health. *Science*. 1988;29:540–545.

21. Berkman LF, Glass T, Brisette I, Seeman TE. From social integration to health: Durkheim in the new millennium. *Soc Sci Med.* 2000;51:843–857.

22. Marmot M, Wilkinson R. *Social Determinants of Health: The Solid Facts.* 2nd ed. Geneva, Switzerland: World Health Organization; 1998.

23. House JS. Work, Stress and Social Support. Reading, Mass: Addison-Wesley; 1981.

24. Felton BJ, Shinn M. Social integration and social support: moving "social support" beyond the individual level. *J Community Psychol.* 1992;20:103–115.

25. Cohen S, Wills TA. Stress, social support and the buffering hypothesis. *Psychol Bull.* 1985;98:310–357.

26. Cohen S, Gottlieb B, Underwood L. Social relationships and health. In: Cohen S, Underwood L, Gottlieb B, eds. *Measuring and Intervening in Social Support*. New York, NY: Oxford University Press; 2000: 3–25.

27. Berkman LF, Syme SL. Social networks, host resistance, and mortality: a nine-year follow-up of Alameda County residents. *Am J Epidemiol.* 1979;109: 186–204.

28. House JS, Robbins C, Metzner HL. The association of social relationships and activities with mortality: prospective evidence from the Tecumseh community health study. *Am J Epidemiol.* 1982;116:123–140.

 Schoenbach VJ, Kaplan BH, Fredman L, Kleinbaum DG. Social ties and mortality in Evans County, Georgia. *Am J Epidemiol.* 1986;123:577–591.

30. Welin L, Tibblin G, Svärdsudd K, et al. Prospective study of social influences on mortality: the study of men born in 1913 and 1923. *Lancet.* 1985;1:915–918.

 Orth-Gomer K, Johnson JV. Social network interaction and mortality: a six year follow-up study of a random sample of the Swedish population. *J Chronic Dis.* 1987;40:949–957.

32. Kaplan GA, Salonen JT, Cohen RD, Brand RJ, Syme SL, Puska P. Social connections and mortality from all causes and from cardiovascular disease: prospective evidence from eastern Finland. *Am J Epidemiol.* 1988;128:370–380.

33. Kawachi I, Colditz GA, Ascherio A, et al. A prospective study of social networks in relation to total mortality and cardiovascular disease in men in the USA. *J Epidemiol Community Health.* 1996;50: 245–251.

34. Rook KS. The functions of social bonds: perspectives from research on social support, loneliness and social isolation. In: Sarason IG, Sarason BR, eds. *Social Support: Theory, Research and Applications*. Dordrecht, The Netherlands: Martinus Nijhoff Publishers; 1985: 243–267.

35. Thoits PA. Social support and psychological well-being: theoretical possibilities. In: Sarason IG, Sarason BR, eds. *Social Support: Theory, Research and Applications*. Dordrecht, The Netherlands: Martinus Nijhoff Publishers; 1985:51–72.

36. Thoits PA. Stress, coping, and social support processes: where are we? what next? *J Health Soc Behav.* 1995;35:53–79.

37. Burg MM, Seeman TE. Families and health: the negative side of social ties. *Ann Behav Med.* 1994;16: 109–115.

38. Richmond CAM, Ross NA, Bernier J. Exploring indigenous concepts of health: the dimensions of Métis and Inuit health. In: White J, Beavon D, Wingert S, Maxim P, eds. *Aboriginal Policy Research: Directions and Outcomes Volume 4*. Toronto, Ontario: Thompson Educational Publishing; 2007:3–13.

 Daniel M, Cargo MD, Lifshay J, Green L. Cigarette smoking, mental health and social support: data from a northwestern First Nation. *Can J Public Health.* 2004; 95:45–49.

40. Iwasaki Y, Bartlett J, O'Neil J. Coping with stress among aboriginal women and men with diabetes in Winnipeg, Canada. *Soc Sci Med.* 2005;60:977–988.

 Mignone J. Social Capital in First Nations Communities: Conceptual Development and Instrument Validation [dissertation]. Winnipeg: University of Manitoba; 2003.
 Mignone J, O'Neil J. Social capital and youth suicide risk factors in First Nations communities. Can J Public Health. 2005;96:S51–S54.

43. Hobfoll SE, Bansal A, Schurg R, et al. The impact of perceived child physical and sexual abuse history on Native American women's psychological well-being and AIDS risk. *J Consult Clin Psychol.* 2002;70:252–257.

44. Cummins JR, Ireland M, Resnick MD, Blum RW. Correlates of physical and emotional health among Native American adolescents. *J Adolesc Health.* 1999; 24:338–344.

45. Mohatt GV, Rasmus MS, Thomas L, Allen J, Hazel K, Hensel C. Tied together like a woven hat: protective pathways to Alaska native sobriety. *Harm Reduct J*. 2004;1:1–12.

46. Hobfoll SE, Jackson A, Hobfoll I, Pierce CA, Young S. The impact of communal-mastery versus self-mastery on emotional outcomes during stressful conditions: a prospective study of Native American women. Am J Community Psychol. 2002;30:853–871.

47. Durie M. Whaiora: Maori Health Development. Auckland, New Zealand: Oxford University Press; 1994.

48. Casken J. Improved health status for Native Hawaiians: not just what the doctor ordered. Wicazo Sa Rev. 2001;16:75–89.

49. McRae MB, Carey PM, Anderson-Scott R. Black churches as therapeutic systems: a group process perspective. *Health Educ Behav.* 1998;25:778–789.

50. McFarlane J, Fehir J. De Madres a Madres: a community, primary health care program based on empowerment. *Health Educ Q.* 1994;21:381–394.

51. Coleman JS. *Foundations of Social Theory*. Chicago, Ill: University of Chicago Press; 1990.

52. Geronimus AT. To mitigate, resist, or undo: addressing structural influences on the health of urban populations. *Am J Public Health*. 2000;90:867–872. 53. Aboriginal Peoples Survey 2001: Concepts and Methods Guide. Ottawa, Ontario: Statistics Canada; 2001.

54. Idler EL, Kasl SV, Lemke JH. Self-evaluated health and mortality among the elderly in New Haven, Connecticut, and Iowa and Washington counties, Iowa, 1982–1986. *Am J Epidemiol*. 1990;131:91–103.

55. Kaplan GA, Camacho T. Perceived health and mortality: a nine-year follow-up of the human population laboratory cohort. *Am J Epidemiol.* 1983;117: 292–304.

56. Hoeymans N, Feskens EJ, Kromhout D, van den Bos GA. Ageing and the relationship between functional status and self-rated health in elderly men. *Soc Sci Med.* 1997;45:1527–1536.

57. Miilunpalo S, Vuori I, Ola P, Pasanen M, Urponen H. Self-rated health status as a health measure: the predictive value of self-reported health status in the use of physician services and on mortality in the working-age population. *J Clin Epidemiol.* 1997;50:517–528.

58. Epp J. Achieving Health for All: A Framework for Health Promotion. Ottawa, Ontario: Health and Welfare Canada; 1986.

59. Evans RG, Barer ML, Marmor TR. *Why Are Some People Healthy and Others Not?* New York, NY: Aldine De Gruyter; 1994.

60. Wilson K, Rosenberg MW. Exploring the determinants of health for First Nations peoples in Canada: can existing frameworks accommodate traditional activities? *Soc Sci Med.* 2002;55:2017–2031.

61. Ross NA. Community belonging and health. *Health Rep.* 2002;13:33–39.

62. Denton M, Prus S, Walters V. Gender differences in health: a Canadian study of the psychosocial, structural and behavioural determinants of health. *Soc Sci Med.* 2004;58:2585–2600.

63. Shumaker SA, Hill DR. Gender differences in social support and physical health. *Health Psychol.* 1991;10:102–111.

64. Thoits PA. Identity structures and psychological well-being: gender and marital status comparisons. *Soc Psychol Q.* 1992;55:236–256.

65. Umberson D, Chen MD, House JS, Hopkins K, Slaten E. The effect of social relationships on psychological well-being: a men and women really so different? *Am Soc Rev.* 1996;61:837–857.

66. Turner RJ, Marino F. Social support and social structure: a descriptive epidemiology. *J Health Soc Behav.* 1994;35:193–212.

67. Belle, D. Gender differences in the social moderators of stress. In: Barnett RC, Bierer LM, Baruch KL, eds. *Gender and Stress*. New York, NY: Free Press; 1987:257–277.

68. de Vries B, Watt D. A lifetime of events: age and gender variations in the life story. *Int J Aging Hum Dev.* 1996;42:81–102.

69. Turner RJ, Avison WR. Gender and depression: assessing exposure and vulnerability to life events in a chronically strained population. *J Nerv Ment Dis.* 1987; 77:443–455.

70. Styrker S, Burke PJ. The past, present and future of an identity theory. *Soc Psychol Q.* 2000;63: 284–297.

71. Link BG, Phelan J. Social conditions and fundamental causes of disease. *J Health Soc Behav.* 1995;35: 80–94.

72. Durie M. Understanding health and illness: research at the interface between science and indigenous knowledge. *Int J Epidemiol.* 2004;33:1138–1143.

73. Krieger N. Theories for social epidemiology in the 21st century: an ecosocial perspective. *Int J Epidemiol.* 2001;30:668–677.