Appendix 1 (as supplied by the authors)

Appendix 1A: Kessler Psychological Distress Scale (K10)

Please select the answer that is correct for you:	**All of the time (score 5)**	**Most of the time (score 4)**	**Some of the time (score 3)**	**A little of the time (score 2)**	**None of the time (score 1)**
1. In the past 4 weeks, about how often did you feel tired out for no good reason?					
2. In the past 4 weeks, about how often did you feel nervous?					
3. In the past 4 weeks, about how often did you feel so nervous that nothing could calm you down?					
4. In the past 4 weeks, about how often did you feel hopeless?					
5. In the past 4 weeks, about how often did you feel restless or fidgety?					
6. In the past 4 weeks, about how often did you feel so restless you could not sit still?					
7. In the past 4 weeks, about how often did you feel depressed?					
8. In the past 4 weeks, about how often did you feel that everything was an effort?					
9. In the past 4 weeks, about how often did you feel so sad that nothing could cheer you up?					
10. In the past 4 weeks, about how often did you feel worthless?					

Source: Kessler RC, Andrews G, Colpe LJ, Hiripi E, Mroczek DK, Normand SLT et al. Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychol Med* 2002; **32**: 959–76.

Appendix to: Hajizadeh M, Bombay A, Asada Y. Socioeconomic inequalities in psychological distress and suicidal behaviours among Indigenous peoples living off-reserve in Canada. *CMAJ* 2019. doi: 10.1503/cmaj.181374.

Appendix 1B: The definition and weighted descriptive statistics of the variables used in the study

Variables	Description	Proportion/Mean† Total	Male	Female
Outcome variable				
Psychological distress	The Kessler Psychological Distress Scale (K10) score (Min=10 and Max 50)	16.061	15.168	16.745
Lifetime suicide ideation	1= if individual reported suicide ideation in the lifetime, 0 otherwise, 0 otherwise	0.1934	0.1609	0.2185
Lifetime suicide attempt	1= if individual reported a suicide attempt in the lifetime, 0 otherwise, 0 otherwise	0.0217	0.0198	0.2315
Demographic variables				
Sex				
Male	1= if male, 0 otherwise	0.4336		
Age (years)	Age of individual in years	42.5383	42.5469	42.5316
Marital Status				
Married	1= if married or *de facto* married, 0 otherwise	0.5385	0.5826	0.5048
Divorced or widowed	1= if divorced or widowed, 0 otherwise	0.1483	0.0907	0.1924
Single (Ref.)	1= if single, 0 otherwise	0.3132	0.3266	0.3028
Cultural group				
Métis (Ref.)	1= if Métis, 0 otherwise	0.4528	0.4736	0.4368
Status First Nations	1= if status First Nations, 0 otherwise	0.3428	0.3232	0.3578
Non-status First Nations	1= if non-status First Nations, 0 otherwise	0.1605	0.1595	0.1614
Inuit	1= if Inuit, 0 otherwise	0.0439	0.0438	0.0441
Socioeconomic variables				
Equivalised household income (log)	Natural log of household income divided by the square root of household size	10.4227	10.5125	10.3540
Education Level				
Grades 8 and less (Ref.)	1= if completed grade 8 or less, 0 otherwise	0.0634	0.0665	0.0612

Grades 9-10	1= if completed grade 9 or 10, 0 otherwise	0.0939	0.0986	0.0903
Grades 11-secondary completed	1= if completed grade 11, 12, 13 (secondary), 0 otherwise	0.2292	0.2406	0.2205
Some post-secondary	1= if completed some post-secondary education without earning any degree/diploma/certificate, 0 otherwise	0.1876	0.1963	0.1809
Post-secondary degree/diploma	1= if completed post-secondary degree (e.g., university, trade school, college), 0 otherwise	0.4259	0.3981	0.4472
Employment status				
Employed (Ref.)	1= if employed, 0 otherwise	0.6404	0.0552	0.1809
Not in labour force	1= if not in labour force, 0 otherwise	0.243	0.1849	0.2876
Unemployed	1= if unemployed, 0 otherwise	0.1166	0.1297	0.1066
Household crowding				
Room per capita 2 and less (Ref.)	1= if room per capita in the household is 2 and less, 0 otherwise	0.5317	0.5245	0.5373
Room per capita greater than 2 to 4	1= if room per capita in the household is greater than 2 and less than 4, 0 otherwise	0.3666	0.3708	0.3633
Room per capita above 4	1= if room per capita in the household is 4 and above, 0 otherwise	0.1017	0.1047	0.0994
Housing maintenance				
Regular (Ref.)	1= if regular maintenance is needed, 0 otherwise	0.553	0.5444	0.5594
Minor	1= if minor maintenance is needed, 0 otherwise	0.3108	0.3283	0.2975
Major	1= if major maintenance is needed, 0 otherwise	0.1362	0.1273	0.1431
Food security‡				
High (Ref.)	1= if individual had high food security, 0 otherwise	0.8138	0.8447	0.7903
Low	1= if individual had low food security, 0 otherwise	0.0964	0.0892	0.1018
Very low	1= if individual had very low food security, 0 otherwise	0.0898	0.0661	0.1080
Behavioural variables				
Drinking habit				
Regular drinker	1= if individual drank once a month or more, 0 otherwise	0.5741	0.6635	0.5056
Smoking habit				
Daily tobacco use	1= if individual was a daily tobacco user, 0 otherwise	0.3083	0.3087	0.3081

Social connectedness variables				
Strong extended family tie§	1= if individual reported having the strength of ties of 4 or 5 (on a scale of 1 to 5) with family members living in their city/town/ community but in another household, 0 otherwise	0.5143	0.4678	0.5499
No one to turn to for support	1= if individual had no one to turn to for support, 0 otherwise	0.0495	0.0633	0.0389
Other cultural variables				
Cultural engagement				
Clothing footwear	1= if individual made clothing/footwear in the last year, 0 otherwise	0.0985	0.0307	0.1504
Art craft	1= if individual made art craft in the last year, 0 otherwise	0.2808	0.2168	0.3297
Hunting/fishing/trapping	1= if individual went hunting, fishing or trapping in the last year, 0 otherwise	0.3678	0.5021	0.2649
Plant gathering	1= if individual gathered wild plants in the last year, 0 otherwise	0.3089	0.2802	0.3309
Language				
Speak Indigenous language	1= if individual spoke an Indigenous language well or with effort, 0 otherwise	0.1108	0.0976	0.1209
Residential school variable				
Not attended (Ref.)	1= if none of the family attended residential schools, 0 otherwise	0.7014	0.7200	0.6872
Any family member attended	1= if at least one of the individual's family attended residential schools, 0 otherwise	0.2095	0.1913	0.2234
Missing	1= if individual did not answer the residential school attendance question, 0 otherwise	0.0891	0.0887	0.0894
Geographical variables				
Urbanicity				
Rural (Ref).	1= if individual resided in the small rural area, 0 otherwise	0.2318	0.2445	0.2220

Small population centre	1= if individual resided in small population centre 1,000 to 29,999, 0 otherwise	0.205	0.2084	0.2023
Medium population centre	1= if individual resided in a medium population centre 30,000 to 99,999, 0 otherwise	0.118	0.1064	0.1270
Urban	1= if individual resided in large urban population centre 100,0000 or more, 0 otherwise	0.4452	0.4407	0.4487
Regions				
Atlantic provinces	1= if individual resided in the four Atlantic provinces (i.e., New Brunswick, Prince Edward Island, Nova Scotia and Newfoundland and Labrador), 0 otherwise	0.0755	0.2513	0.2559
Quebec	1= if individual resided in Quebec, 0 otherwise	0.1052	0.0719	0.0782
Ontario (Ref.)	1= if individual resided in Ontario, 0 otherwise	0.2870	0.1157	0.0971
Manitoba	1= if individual resided in Manitoba, 0 otherwise	0.1231		
Saskatchewan	1= if individual resided in Saskatchewan; 0 otherwise	0.0851	0.1224	0.1237
Alberta	1= if individual resided in Alberta, 0 otherwise	0.1554	0.0820	0.0876
British Columbia	1= if individual resided in British Columbia, 0 otherwise	0.1687	0.1525	0.1576
Territories	1= if individual resided in the three territories (i.e., Yukon, Northwest Territories, and Nunavut), 0 otherwise	0.0331	0.1720	0.1661

Note: *Ref.* indicates reference category in the decomposition analysis.

† The columns indicate the proportion for each variable coded as 1, except for equivalized household income and age, for which they represent the mean value.

‡ This variable is derived from the respondent's answers to the six questions using the U.S. Household Food Security Survey Module Six-Item Short Form. For further detail see "United States Department of Agriculture Economic Research Service. U.S. household food security survey module: six-item short form. http://www.ers.usda.gov/media/8282/short2012.pdf. Updated September 2012. Accessed Feb 9, 2019."

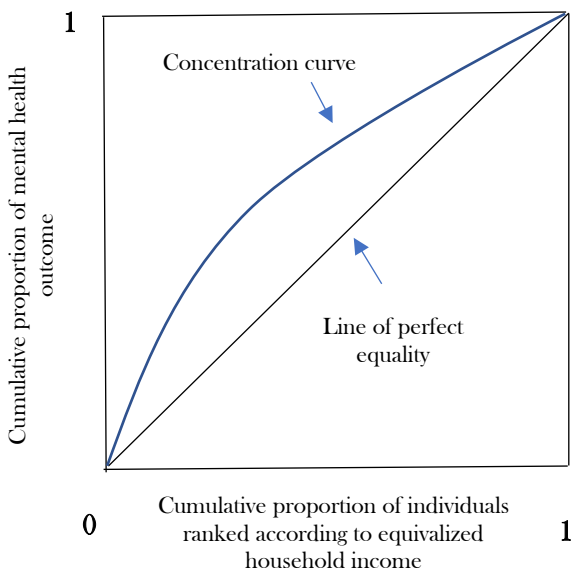
§ The cut-off was selected based on the weighted median value of extended family ties scale.

<u>Appendix 1C</u>: Detailed Statistical Analysis

The Concentration Index

The concentration index (C) approach was used to quantify the extent of income-related inequalities in psychological distress, lifetime suicidal ideation and attempt among Indigenous peoples living off-reserve in Canada. As a summary measure of socioeconomic inequality in health, the C for each health outcome is computed based on the concentration curve, which graphs the cumulative percentage of the population ranked by ascending order of an SES variable (e.g., equivalised household income), on its x-axis, against the cumulative percentage of a health outcome (e.g., mild-to-severe psychological distress) (see Figure C.1).

Figure C.1: Concentration Curve



If the concentration curve coincides with the diagonal (the perfect equality line), health outcome is the same for all individuals, regardless of their SES level. The C is calculated as twice the area between the diagonal and the concentration curve. If the concentration curve lies above the diagonal, it suggests that health outcome is more prevalent among lower SES individuals and *vice versa.*[1] The value of C varies from -1 to 1 and the value of zero indicates perfect equality. A negative (positive) value of the C indicates that the health outcome is disproportionately concentrated among low SES individuals.

The C can be computed using the following "convenient regression" formula:[2]

$$2\sigma_R^2\left(\frac{y_i}{\mu}\right) = \alpha + \delta R_i + \varepsilon_i, \qquad (1)$$

where y_i is individuals i's health outcome, μ is the proportion of health outcome for the total sample, R_i is the individuals i's fractional rank in the distribution ($i = 1$ and n for the poorest and richest individuals, respectively) and is calculated as $R_i = i/n$. The σ_R^2 denotes the variance of fractional rank. The ordinary least squares (OLS) estimate of δ and its standard error indicates the value and the standard error for the C, respectively.[3] The minimum and maximum values of the index are not -1 and +1 when the health outcome is binary (e.g., lifetime suicidal ideation and lifetime suicide attempt). Thus, as per Wagstaff's suggestion,[4] the magnitude of the C and its standard error were normalized by multiplying them by $1/1-\mu$. The normalized concentration index (C_n) was used to measure income-related inequalities in lifetime suicidal ideation and lifetime suicide attempt.

Decomposing the Concentration Index

The C can be decomposed to identify factors explaining income-related inequality in mental health outcome among the off-reserve Indigenous population. The decomposition analysis enables us to measure the extent to which observed explanatory factors of the health outcome (e.g., demographic, socioeconomic, social connectedness, geographic characteristics, etc.) contributed to the income-related inequality in mental health outcome among Indigenous population. Wagstaff and colleagues[5] showed that if we have a linear regression model that relates our outcome variable, y, to a set of k explanatory variables (including SES variable itself), x_k, such as:

$$y = \propto + \sum_k \beta_k x_k + \varepsilon, \qquad (2)$$

the C for the health outcome variable, y, can be decomposed as follows:

$$C = \sum_k \left(\frac{\beta_k \overline{x_k}}{\mu}\right) C_k + \frac{GC_\varepsilon}{\mu}. \qquad (3)$$

As per Equation 3, the C for the health outcome variable is equal to a weighted sum of the C of the explanatory variables, the C_k, where the weight is the elasticity of y with respect to x_k (i.e., $\beta_k(\overline{x_k}/\mu)$, where $\overline{x_k}$ represents the mean of x_k and β_k is the coefficient of x_k obtained from Equation 2). If an explanatory factor is distributed unequally across income distribution and has a significant elasticity, the factor contributes to the observed income-related inequality in health outcome.[5] The contribution of each explanatory (i.e., $\left(\frac{\beta_k \overline{x_k}}{\mu}\right) C_k$) shows how much the variation in the explanatory variable of x_k among different income groups can explain the association between health outcome and income via its partial relation with

health outcome (i.e., as measured by the elasticity of the x_k). The negative (positive) contribution of a factor to the C suggests that income-related distribution of the factor and the association between the factor and health outcomes results to an increase in the health outcome among the poor (rich). The error term in the model, GC_ε equals to $\frac{2}{n}\sum_{i=1}^{n}\varepsilon_i R_i$[5] and demonstrates income-related inequality in the health outcome that cannot be explained by variation in x_k across income groups.[3] As discussed above, the two mental health outcome variables in the study are binary, and normalization is necessary to bound the minimum and maximum values of the index at -1 and +1. If we apply Wagstaff's normalization to the decomposition of the C, Equation 3 can be written as:

$$C_n = \frac{C}{1-\mu} = \frac{\sum_k\left(\frac{\beta_k \overline{x_k}}{\mu}\right)C_k}{1-\mu} + \frac{\frac{GC_\varepsilon}{\mu}}{1-\mu}. \qquad (4)$$

Since lifetime suicidal ideation and lifetime suicide attempt are binary, marginal effects of coefficients obtained from the non-linear logit model were used in the decomposition analysis. As per Statistics Canada's Research Data Centre (RDC) guidelines,[6] we applied bootstrap weights (using the SVY command[7] in the Stata 14[8]) in the analyses to obtain estimates that are representative of Indigenous populations living off-reserve in Canada and to take into account the complex survey design.

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Appendix 1D: Detailed decomposition of income-related inequalities in psychological distress and suicidal behaviours (Total)

			Psychological distress			Lifetime suicide ideation			Lifetime suicide attempt		
	$\overline{X_k}$	C_k	β_k	$\frac{\beta_k \overline{x_k}}{\mu}$	Contribution †§	β_k	$\frac{\beta_k \overline{x_k}}{\mu}$	Contribution‡§	β_k	$\frac{\beta_k \overline{x_k}}{\mu}$	Contribution‡§
Demographic variables											
Sex (Ref.=Female)											
Male	0.4336	0.0722	-0.9857	-0.0266	-0.0019	-0.0163	-0.0365	-0.0033	-0.0001	-0.0021	-0.0002
Age (years)	42.5383	0.0059	-0.0430	-0.1138	-0.0007	-0.0003	-0.0756	-0.0006	-0.0002	-0.4494	-0.0027
Marital Status (Ref.=Single)											
Married	0.5385	0.1176	-0.0515	-0.0017	-0.0002	-0.0202	-0.0563	-0.0082	-0.0045	-0.1112	-0.0134
Divorced or widowed	0.1483	-0.1704	0.6820	0.0063	-0.0011	0.0506	0.0388	-0.0082	-0.0057	-0.0389	0.0068
					-0.0039 (7.2)			**-0.0202 (9.3)**			**-0.0095 (2.9)**
Cultural group (Ref.=Métis)											
Status First Nations	0.3428	-0.0986	-0.5917	-0.0126	0.0012	0.0167	0.0296	-0.0036	-0.0001	-0.0020	0.0002
Non-status First Nations	0.1605	0.0314	0.1501	0.0015	0.0000	-0.0036	-0.0030	-0.0001	0.0030	0.0219	0.0007
Inuit	0.0439	-0.0252	-1.5823	-0.0043	0.0001	0.0215	0.0049	-0.0002	0.0013	0.0025	-0.0001
					0.0014 (-2.6)			**-0.0039 (1.8)**			**0.0008 (-0.3)**
Socioeconomic variables											
Equivalised household income (log)	10.4227	0.0470	-0.2420	-0.1570	-0.0074	-0.0127	-0.6823	-0.0397	-0.0011	-0.5313	-0.0255
					-0.0074 (13.7)			**-0.0397 (18.2)**			**-0.0255 (7.8)**
Education Level (Ref.=Grades 8 and less)											
Grades 9-10	0.0939	-0.2329	0.1955	0.0011	-0.0003	0.0585	0.0284	-0.0082	0.0050	0.0215	-0.0051
Grades 11-secondary completed	0.2292	-0.0526	-0.5954	-0.0085	0.0004	0.0494	0.0585	-0.0038	0.0013	0.0137	-0.0007
Some post-secondary	0.1876	0.0176	-0.2865	-0.0033	-0.0001	0.0785	0.0761	0.0017	0.0037	0.0323	0.0006
Post-secondary degree/diploma	0.4259	0.1149	-0.6630	-0.0176	-0.0020	0.0799	0.1758	0.0251	0.0053	0.1039	0.0122

					-0.0019			**0.0147**			**0.0069**
					(3.5)			**(-6.7)**			**(-2.1)**
Employment status (Ref.=Employed)											
Not in the labour force	0.2430	-0.3071	1.4909	0.0226	-0.0069	0.0050	0.0062	-0.0024	0.0064	0.0719	-0.0226
Other occupations	0.1166	-0.0689	0.7786	0.0057	-0.0004	0.0007	0.0004	0.0000	0.0024	0.0130	-0.0009
					-0.0073			**-0.0024**			**-0.0235**
					(13.5)			**(1.1)**			**(7.2)**
Household crowding (Ref.=Room per capita 2 and less)											
Room per capita greater than 2 to 4	0.3666	0.1102	-0.0399	-0.0009	-0.0001	-0.0043	-0.0082	-0.0011	0.0012	0.0202	0.0023
Room per capita above 4	0.1017	0.1916	-0.0222	-0.0001	0.0000	-0.0146	-0.0077	-0.0018	0.0031	0.0146	0.0029
Housing maintenance (Ref.=Regular)											
Minor	0.3108	0.0228	0.5309	0.0103	0.0002	0.0153	0.0246	0.0007	0.0031	0.0437	0.0010
Major	0.1362	-0.1670	1.1811	0.0100	-0.0017	0.0459	0.0323	-0.0067	0.0058	0.0364	-0.0062
					-0.0016			**-0.0089**			**0.00004**
					(2.9)			**(4.1)**			**(0.01)**
Food security (Ref.= High)											
Low	0.0964	-0.2723	2.6036	0.0156	-0.0043	0.1142	0.0569	-0.0192	0.0083	0.0367	-0.0102
Very low	0.0898	-0.4601	6.7777	0.0379	-0.0174	0.1470	0.0682	-0.0389	0.0172	0.0713	-0.0335
					-0.0217			**-0.0581**			**-0.0437**
					(40.2)			**(26.7)**			**(13.4)**
Behavioural variables											
Drinking habit											
Regular drinker	0.5741	0.0856	-0.2569	-0.0092	-0.0008	-0.0390	-0.1157	-0.0123	0.0012	0.0330	0.0029
Smoking habit											
Daily tobacco use	0.3083	-0.1586	1.3436	0.0258	-0.0041	0.0698	0.1112	-0.0219	0.0064	0.0914	-0.0148
					-0.0049			**-0.0342**			**-0.0119**
					(9.0)			**(15.7)**			**(3.6)**
Social connectedness variables											
Strong extended family ties	0.5143	0.0270	-1.2426	-0.0398	-0.0011	-0.0523	-0.1391	-0.0047	-0.0084	-0.1985	-0.0055
Turn to someone for support	0.0495	-0.2043	0.9628	0.0030	-0.0006	-0.0035	-0.0009	0.0002	0.0056	0.0127	-0.0027

					-0.0017			**-0.0044**			**-0.0081**
					(3.1)			**(2)**			**(2.5)**
Other cultural variables											
Cultural engagement											
Clothing footwear	0.0985	-0.0805	0.0108	0.0001	0.0000	0.0487	0.0248	-0.0025	0.0018	0.0084	-0.0007
Art craft	0.2808	-0.0584	0.9530	0.0167	-0.0010	0.0629	0.0913	-0.0066	0.0004	0.0054	-0.0003
Hunting/Fishing/Trapping	0.3678	0.0838	0.0531	0.0012	0.0001	-0.0108	-0.0206	-0.0021	0.0004	0.0074	0.0006
Plant gathering	0.3089	0.0000	0.4130	0.0079	0.0000	0.0266	0.0425	0.0000	-0.0001	-0.0011	0.0000
Language											
Speak Indigenous language	0.1108	-0.1395	-0.5856	-0.0040	0.0006	-0.0375	-0.0215	0.0037	-0.0024	-0.0123	0.0017
					-0.0003			**-0.0075**			**0.0014**
					(0.6)			**(3.4)**			**(-0.4)**
Residential school variable (Ref.=Not attended)											
Attended	0.2095	-0.1085	0.5466	0.0071	-0.0008	0.0320	0.0347	-0.0047	0.0061	0.0589	-0.0065
Missing	0.0891	-0.0713	0.5049	0.0028	-0.0002	0.0640	0.0294	-0.0026	0.0054	0.0222	-0.0016
					-0.0010			**-0.0073**			**-0.0081**
					(1.8)			**(3.3)**			**(2.5)**
Geographical variables											
Urbanicity (Ref.= Rural)											
Small population centre	0.2050	0.0251	0.2091	0.0027	0.0001	0.0151	0.0160	0.0005	-0.0008	-0.0075	-0.0002
Medium population centre	0.1180	-0.0691	1.0269	0.0075	-0.0005	0.0310	0.0189	-0.0016	0.0029	0.0156	-0.0011
Urban	0.4452	-0.0199	1.0295	0.0285	-0.0006	0.0338	0.0778	-0.0019	-0.0028	-0.0577	0.0012
Regions (Ref.= ON)					0.0000						
Atlantic provinces	0.0755	-0.0071	-0.3245	-0.0015	0.0000	-0.0561	-0.0219	0.0002	-0.0101	-0.0352	0.0003
Quebec	0.1052	-0.0690	-0.4917	-0.0032	0.0002	0.0505	0.0274	-0.0023	0.0017	0.0080	-0.0006
Manitoba	0.1231	-0.0475	-0.2744	-0.0021	0.0001	-0.0380	-0.0242	0.0014	0.0016	0.0089	-0.0004
Saskatchewan	0.0851	-0.0600	-0.9296	-0.0049	0.0003	-0.0111	-0.0049	0.0004	-0.0047	-0.0185	0.0011
Alberta	0.1554	0.1147	-0.4866	-0.0047	-0.0005	0.0239	0.0192	0.0027	-0.0003	-0.0024	-0.0003
British Columbia	0.1687	-0.0443	-0.4593	-0.0048	0.0002	0.0163	0.0142	-0.0008	-0.0019	-0.0148	0.0007
Territories	0.0331	0.0496	-1.5355	-0.0032	-0.0002	-0.0217	-0.0037	-0.0002	-0.0058	-0.0089	-0.0005

	-0.0009	**-0.0017**	**0.0002**
	(1.6)	**(0.8)**	**(-0.1)**
Residual	**-0.0030**	**-0.0443**	**-0.2059**
	(5.5)	**(20.3)**	**(63)**
The C and C_n	**-0.0536**	**-0.2181**	**-0.3272**
	(100)	**(100)**	**(100)**

Note: *Ref.* indicates the reference category in the decomposition analysis.

† The absolute contribution of each explanatory variable, x, to the overall C was calculated by multiplying "elasticity" of each explanatory variable (i.e., $\beta_k(\overline{x_k}\ /\mu)$, where $\overline{x_k}$ represents the mean of x_k, β_k is the coefficient obtained from ordinary least squares (OLS) model of x_k and μ is the proportion of relevant health outcome) by C_k where C_k is the concentration of that explanatory variable.

‡ The absolute contribution of each explanatory variable, x, to the overall C_n was calculated by multiplying "elasticity" of each explanatory variable (i.e., $\beta_k(\overline{x_k}\ /\mu)$, where $\overline{x_k}$ represents the mean of x_k, β_k is the marginal effect obtained from a logit model of x_k and μ is the proportion of relevant health outcome) by $C_k/1-\mu$, where C_k is the concentration of that explanatory variable.

§ The aggregate contributions (reported in bold font) are the sum of the contributions of all variables in each category. Percentage contributions in the brackets were calculated by dividing the corresponding aggregate contribution by the C or C_n.

Appendix 1E: Detailed decomposition of income-related inequalities in psychological distress and suicidal behaviours (Male)

			Psychological distress			Lifetime suicide ideation			Lifetime suicide attempt		
	$\overline{X_k}$	C_k	β_k	$\frac{\beta_k \overline{x_k}}{\mu}$	Contribution †§	β_k	$\frac{\beta_k \overline{x_k}}{\mu}$	Contribution‡§	β_k	$\frac{\beta_k \overline{x_k}}{\mu}$	Contribution‡§
Demographic variables											
Age (years)	42.5469	0.0022	-0.0351	-0.0983	-0.0002	-0.0003	-0.0685	-0.0002	-0.0001	-0.1803	-0.0004
Marital Status (Ref.=Single)											
Married	0.5826	0.0707	-0.3673	-0.0141	-0.0010	-0.0257	-0.0932	-0.0079	-0.0032	-0.0930	-0.0067
Divorced or widowed	0.0907	-0.1095	-0.1089	-0.0007	0.0001	0.0236	0.0133	-0.0017	-0.0071	-0.0323	0.0036
					-0.0011 (2.5)			**-0.0098 (4.3)**			**-0.0035 (0.8)**
Cultural group (Ref.=Métis)											
Status First Nations	0.3232	-0.0879	-0.2795	-0.0060	0.0005	0.0255	0.0511	-0.0054	0.0029	0.0476	-0.0043
Non-status First Nations	0.1595	-0.0046	0.1799	0.0019	0.0000	0.0003	0.0003	0.0000	0.0087	0.0697	-0.0003
Inuit	0.0438	-0.1004	-1.2874	-0.0037	0.0004	0.0068	0.0018	-0.0002	0.0001	0.0002	0.0000
					0.0009 (-1.9)			**-0.0056 (2.4)**			**-0.0046 (1)**
Socioeconomic variables											
Equivalised household income (log)	10.5125	0.0456	-0.1877	-0.1301	-0.0059	-0.0130	-0.8483	-0.0461	-0.0015	-0.7894	-0.0367
					-0.0059 (12.9)			**-0.0461 (20.1)**			**-0.0367 (7.9)**
Education Level (Ref.=Grades 8 and less)											
Grades 9-10	0.0986	-0.2305	-0.6890	-0.0045	0.0010	0.0244	0.0149	-0.0041	-0.0019	-0.0094	0.0022
Grades 11-secondary completed	0.2406	-0.0326	-0.8849	-0.0140	0.0005	0.0106	0.0158	-0.0006	-0.0037	-0.0443	0.0015
Some post-secondary	0.1963	0.0355	-0.5009	-0.0065	-0.0002	0.0618	0.0753	0.0032	-0.0011	-0.0107	-0.0004
Post-secondary degree/diploma	0.3981	0.1136	-0.8924	-0.0234	-0.0027	0.0275	0.0680	0.0092	-0.0015	-0.0293	-0.0034
					-0.0014 (3)			**0.0077 (-3.4)**			**-0.0001 (0.2)**
Employment status (Ref.=Employed)											

Not in the labour force	0.1849	-0.3105	1.2643	0.0154	-0.0048	-0.0122	-0.0140	0.0052	0.0049	0.0459	-0.0145
Other occupations	0.1297	-0.1240	0.3136	0.0027	-0.0003	-0.0467	-0.0376	0.0056	-0.0005	-0.0034	0.0004
					-0.0051			**0.0107**			**-0.0141**
					(11.1)			**(-4.7)**			**(3.1)**
Household crowding (Ref.=Room per capita 2 and less)											
Room per capita greater than 2 to 4	0.3708	0.1173	0.0677	0.0017	0.0002	-0.0031	-0.0071	-0.0010	0.0018	0.0332	0.0040
Room per capita above 4	0.1047	0.1789	0.2798	0.0019	0.0003	0.0068	0.0044	0.0009	0.0004	0.0023	0.0004
Housing maintenance (Ref.=Regular)											
Minor	0.3283	0.0291	0.1738	0.0038	0.0001	0.0095	0.0194	0.0007	0.0021	0.0353	0.0010
Major	0.1273	-0.1806	0.9518	0.0080	-0.0014	0.0204	0.0161	-0.0035	0.0030	0.0192	-0.0035
					-0.0008			**-0.0029**			**0.0019**
					(1.7)			**(1.2)**			**(-0.4)**
Food security (Ref.= High)											
Low	0.0892	-0.3088	2.8192	0.0166	-0.0051	0.0959	0.0532	-0.0196	-0.0011	-0.0048	0.0015
Very low	0.0661	-0.4457	6.4505	0.0281	-0.0125	0.1346	0.0553	-0.0294	0.0108	0.0360	-0.0164
					-0.0176			**-0.0489**			**-0.0148**
					(38.4)			**(21.4)**			**(3.2)**
Behavioural variables											
Drinking habit											
Regular drinker	0.6635	0.0767	-0.4583	-0.0201	-0.0015	-0.0328	-0.1355	-0.0124	0.0001	0.0032	0.0002
Smoking habit											
Daily tobacco use	0.3087	-0.1748	1.2710	0.0259	-0.0045	0.0734	0.1408	-0.0293	0.0062	0.0969	-0.0173
					-0.0061			**-0.0417**			**-0.0170**
					(13.2)			**(18.2)**			**(3.7)**
Social connectedness variables											
Strong extended family ties	0.4678	0.0245	-1.4597	-0.0450	-0.0011	-0.0640	-0.1861	-0.0054	-0.0054	-0.1284	-0.0032
Turn to someone for support	0.0633	-0.1691	-0.2115	-0.0009	0.0001	-0.0050	-0.0020	0.0004	0.0042	0.0135	-0.0023
					-0.0010			**-0.0050**			**-0.0055**
					(2.1)			**(2.2)**			**(1.2)**
Other cultural variables											

Cultural engagement											
Clothing footwear	0.0307	-0.1567	0.4639	0.0009	-0.0001	0.0745	0.0142	-0.0027	0.0102	0.0158	-0.0025
Art craft	0.2168	-0.0869	1.0409	0.0149	-0.0013	0.0407	0.0549	-0.0057	-0.0043	-0.0465	0.0041
Hunting/Fishing/Trapping	0.5021	0.0551	0.0977	0.0032	0.0002	-0.0045	-0.0139	-0.0009	0.0040	0.1007	0.0057
Plant gathering	0.2802	-0.0023	-0.0541	-0.0010	0.0000	0.0067	0.0116	0.0000	-0.0030	-0.0425	0.0001
Language											
Speak Indigenous language	0.0976	-0.1375	-1.3033	-0.0084	0.0012	-0.0369	-0.0224	0.0037	-0.0060	-0.0295	0.0041
					-0.0001			**-0.0056**			**0.0115**
					(0.2)			**(2.5)**			**(-2.5)**
Residential school variable											
(Ref.=Not attended)											
Attended	0.1913	-0.0868	0.6437	0.0081	-0.0007	0.0373	0.0443	-0.0046	0.0051	0.0490	-0.0043
Missing	0.0887	-0.0721	0.4899	0.0029	-0.0002	0.0729	0.0402	-0.0035	-0.0023	-0.0101	0.0007
					-0.0009			**-0.0080**			**-0.0036**
					(2)			**(3.5)**			**(0.8)**
Geographical variables											
Urbanicity (Ref.= Rural)											
Small population centre	0.2084	0.0170	-0.0920	-0.0013	-0.00002	0.0077	0.0100	0.0002	-0.0013	-0.0136	-0.0002
Medium population centre	0.1064	-0.0113	0.1561	0.0011	-0.00001	0.0105	0.0069	-0.0001	-0.0006	-0.0033	0.0000
Urban	0.4407	-0.0019	0.3596	0.0104	-0.00002	0.0115	0.0316	-0.0001	-0.0060	-0.1337	0.0003
Regions (Ref.= ON)											
Atlantic provinces	0.0719	-0.0279	-0.6744	-0.0032	0.0001	-0.0553	-0.0247	0.0008	-0.0190	-0.0687	0.0020
Quebec	0.1157	-0.1251	-0.4589	-0.0035	0.0004	0.0491	0.0353	-0.0053	-0.0015	-0.0090	0.0012
Manitoba	0.1224	-0.0642	-0.4877	-0.0039	0.0003	-0.0397	-0.0302	0.0023	0.0025	0.0152	-0.0010
Saskatchewan	0.0820	-0.0414	-0.4302	-0.0023	0.0001	-0.0250	-0.0127	0.0006	-0.0069	-0.0286	0.0012
Alberta	0.1525	0.1602	-0.3828	-0.0038	-0.0006	0.0021	0.0020	0.0004	-0.0090	-0.0692	-0.0113
British Columbia	0.1720	-0.0525	-0.5807	-0.0066	0.0003	-0.0002	-0.0002	0.0000	-0.0013	-0.0113	0.0006
Territories	0.0322	-0.0345	-1.4619	-0.0031	0.0001	0.0037	0.0007	0.0000	-0.0061	-0.0099	0.0003

	0.0007	**-0.0011**	**-0.0070**
	(-1.4)	**(0.5)**	**(1.5)**
Residual	**-0.0075**	**-0.0727**	**-0.3684**
	(16.3)	**(31.7)**	**(79.7)**
The C and C_n	**-0.0455**	**-0.2294**	**-0.4623**
	(100)	**(100)**	**(100)**

Note: *Ref.* indicates the reference category in the decomposition analysis.

† The absolute contribution of each explanatory variable, x, to the overall C was calculated by multiplying "elasticity" of each explanatory variable (i.e., $\beta_k(\overline{x_k}\ /\mu)$, where $\overline{x_k}$ represents the mean of x_k, β_k is the coefficient obtained from ordinary least squares (OLS) model of x_k and μ is the proportion of relevant health outcome) by C_k where C_k is the concentration of that explanatory variable.

‡ The absolute contribution of each explanatory variable, x, to the overall C_n was calculated by multiplying "elasticity" of each explanatory variable (i.e., $\beta_k(\overline{x_k}\ /\mu)$, where $\overline{x_k}$ represents the mean of x_k, β_k is the marginal effect obtained from a logit model of x_k and μ is the proportion of relevant health outcome) by $C_k/1-\mu$, where C_k is the concentration of that explanatory variable.

§ The aggregate contributions (reported in bold font) are the sum of the contributions of all variables in each category. Percentage contributions in the brackets were calculated by dividing the corresponding aggregate contribution by the C or C_n.

Appendix 1F: Detailed decomposition of income-related inequalities in psychological distress and suicidal behaviours (Female)

			Psychological distress			Lifetime suicide ideation			Lifetime suicide attempt		
	$\overline{X_k}$	C_k	β_k	$\frac{\beta_k \overline{x_k}}{\mu}$	Contribution †§	β_k	$\frac{\beta_k \overline{x_k}}{\mu}$	Contribution‡§	β_k	$\frac{\beta_k \overline{x_k}}{\mu}$	Contribution‡§
Demographic variables											
Age (years)	42.5316	0.0092	-0.0470	-0.1195	-0.0011	-0.0004	-0.0839	-0.0010	-0.0003	-0.5512	-0.0052
Marital Status (Ref.=Single)											
Married	0.5048	0.1496	0.1694	0.0051	0.0008	-0.0143	-0.0330	-0.0063	-0.0041	-0.0901	-0.0138
Divorced or widowed	0.1924	-0.1604	1.0432	0.0120	-0.0019	0.0679	0.0598	-0.0123	-0.0037	-0.0306	0.0050
					-0.0023 (4.1)			**-0.0196 (10)**			**-0.0140 (5.9**
Cultural group (Ref.=Métis)											
Status First Nations	0.3578	-0.1012	-0.8032	-0.0172	0.0017	0.0068	0.0111	-0.0014	-0.0032	-0.0493	0.0051
Non-status First Nations	0.1614	0.0556	0.0479	0.0005	0.0000	-0.0117	-0.0087	-0.0006	-0.0041	-0.0289	-0.0016
Inuit	0.0441	0.0314	-1.8326	-0.0048	-0.0002	0.0353	0.0071	0.0003	0.0031	0.0059	0.0002
					0.0016 (-2.9)			**-0.0018 (0.9)**			**0.0037 (-1.5)**
Socioeconomic variables											
Equivalised household income (log)	10.3540	0.0475	-0.2628	-0.1625	-0.0077	-0.0119	-0.5660	-0.0344	0.0005	0.2104	0.0102
					-0.0077 (14)			**-0.0344 (17.6)**			**0.0102 (-4.3)**
Education Level (Ref.=Grades 8 and less)											
Grades 9-10	0.0903	-0.2431	0.8820	0.0048	-0.0012	0.0875	0.0362	-0.0112	0.0118	0.0461	-0.0115
Grades 11-secondary completed	0.2205	-0.0744	-0.4562	-0.0060	0.0004	0.0897	0.0906	-0.0086	0.0068	0.0647	-0.0049
Some post-secondary	0.1809	-0.0051	-0.2265	-0.0024	0.0000	0.0972	0.0805	-0.0005	0.0084	0.0653	-0.0003
Post-secondary degree/diploma	0.4472	0.1242	-0.5062	-0.0135	-0.0017	0.1303	0.2667	0.0424	0.0112	0.2162	0.0275
					-0.0024 (4.3)			**0.0220 (11.2)**			**0.0107 (-4.5)**
Employment status (Ref.=Employed)											

Not in the labour force	0.2876	-0.2881	1.6060	0.0276	-0.0079	0.0242	0.0318	-0.0117	0.0049	0.0606	-0.0179
Other occupations	0.1066	-0.0339	1.2666	0.0081	-0.0003	0.0455	0.0222	-0.0010	0.0043	0.0200	-0.0007
					-0.0082			**-0.0127**			**-0.0186**
					(14.9)			**(6.5)**			**(7.9)**
Household crowding (Ref.=Room per capita 2 and less)											
Room per capita greater than 2 to 4	0.3633	0.1064	-0.0882	-0.0019	-0.0002	-0.0027	-0.0045	-0.0006	0.0011	0.0172	0.0019
Room per capita above 4	0.0994	0.2024	-0.3071	-0.0018	-0.0004	-0.0392	-0.0178	-0.0046	0.0045	0.0195	0.0040
Housing maintenance (Ref.=Regular)											
Minor	0.2975	0.0126	0.8088	0.0144	0.0002	0.0195	0.0266	0.0004	0.0013	0.0161	0.0002
Major	0.1431	-0.1558	1.3148	0.0112	-0.0018	0.0676	0.0443	-0.0088	0.0052	0.0323	-0.0052
					-0.0021			**-0.0136**			**0.0010**
					(3.9)			**(7)**			**(-0.4)**
Food security (Ref.= High)											
Low	0.1018	-0.2422	2.5236	0.0153	-0.0037	0.1260	0.0587	-0.0182	0.0116	0.0509	-0.0126
Very low	0.1080	-0.4474	6.8978	0.0445	-0.0199	0.1590	0.0786	-0.0450	0.0164	0.0766	-0.0351
					-0.0236			**-0.0632**			**-0.0477**
					(42.9)			**(32.2)**			**(20.2)**
Behavioural variables											
Drinking habit											
Regular drinker	0.5056	0.0785	-0.0896	-0.0027	-0.0002	-0.0409	-0.0947	-0.0095	0.0011	0.0238	0.0019
Smoking habit											
Daily tobacco use	0.3081	-0.1494	1.4553	0.0268	-0.0040	0.0651	0.0918	-0.0175	0.0046	0.0616	-0.0094
					-0.0042			**-0.0270**			**-0.0075**
					(7.7)			**(13.8)**			**(3.2)**
Social connectedness variables											
Strong extended family ties	0.5499	0.0376	-1.0434	-0.0343	-0.0013	-0.0432	-0.1088	-0.0052	-0.0066	-0.1557	-0.0060
Turn to someone for support	0.0389	-0.2856	2.3792	0.0055	-0.0016	0.0113	0.0020	-0.0007	0.0064	0.0108	-0.0032
					-0.0029			**-0.0060**			**-0.0092**
					(5.2)			**(3)**			**(3.9)**
Other cultural variables											

Cultural engagement											
Clothing footwear	0.1504	-0.0218	-0.1934	-0.0017	0.0000	0.0430	0.0296	-0.0008	-0.0020	-0.0133	0.0003
Art craft	0.3297	-0.0238	0.9369	0.0184	-0.0004	0.0742	0.1120	-0.0034	0.0028	0.0399	-0.0010
Hunting/Fishing/Trapping	0.2649	0.0766	0.0054	0.0001	0.0000	-0.0161	-0.0195	-0.0019	-0.0036	-0.0409	-0.0032
Plant gathering	0.3309	0.0108	0.7720	0.0153	0.0002	0.0429	0.0650	0.0009	0.0038	0.0536	0.0006
Language											
Speak Indigenous language	0.1209	-0.1307	-0.1256	-0.0009	0.0001	-0.0391	-0.0217	0.0036	0.0001	0.0003	0.0000
					-0.0001			**-0.0016**			**-0.0033**
					(0.2)			**(0.8)**			**(1.4)**
Residential school variable											
(Ref.=Not attended)											
Attended	0.2234	-0.1181	0.4014	0.0054	-0.0006	0.0283	0.0289	-0.0044	0.0045	0.0437	-0.0053
Missing	0.0894	-0.0746	0.4933	0.0026	-0.0002	0.0573	0.0234	-0.0022	0.0088	0.0339	-0.0026
					-0.0008			**-0.0066**			**-0.0079**
					(1.5)			**(3.4)**			**(3.3)**
Geographical variables											
Urbanicity (Ref.= Rural)											
Small population centre	0.2023	0.0273	0.4585	0.0055	0.0002	0.0217	0.0201	0.0007	-0.0003	-0.0030	-0.0001
Medium population centre	0.1270	-0.0952	1.7092	0.0130	-0.0012	0.0488	0.0283	-0.0035	0.0073	0.0403	-0.0039
Urban	0.4487	-0.0315	1.5679	0.0420	-0.0013	0.0531	0.1090	-0.0044	0.0025	0.0475	-0.0015
Regions (Ref.= ON)											
Atlantic provinces	0.0782	0.0108	0.0732	0.0003	0.0000	-0.0483	-0.0173	-0.0002	-0.0027	-0.0090	-0.0001
Quebec	0.0971	-0.0285	-0.3185	-0.0018	0.0001	0.0502	0.0223	-0.0008	0.0019	0.0079	-0.0002
Manitoba	0.1237	-0.0353	0.0307	0.0002	0.0000	-0.0345	-0.0195	0.0009	-0.0017	-0.0088	0.0003
Saskatchewan	0.0876	-0.0720	-1.1656	-0.0061	0.0004	0.0015	0.0006	-0.0001	-0.0020	-0.0076	0.0006
Alberta	0.1576	0.0850	-0.4727	-0.0044	-0.0004	0.0392	0.0283	0.0031	0.0024	0.0161	0.0014
British Columbia	0.1661	-0.0412	-0.2468	-0.0024	0.0001	0.0315	0.0239	-0.0013	-0.0022	-0.0155	0.0007
Territories	0.0339	0.1142	-1.3517	-0.0027	-0.0003	-0.0363	-0.0056	-0.0008	-0.0017	-0.0024	-0.0003
					-0.0025			**-0.0064**			**-0.0032**
					(4.6)			**(3.2)**			**(1.4)**
Residual					**0.0002**			**-0.0251**			**-01503**
					(-0.5)			**(12.8)**			**(63.7)**

The C and C_n	**-0.0548** **(100)**	**-0.1960** **(100)**	**-0.2358** **(100)**

Note: *Ref.* indicates the reference category in the decomposition analysis.

† The absolute contribution of each explanatory variable, x, to the overall C was calculated by multiplying "elasticity" of each explanatory variable (i.e., $\beta_k(\overline{x_k}\ /\mu)$, where $\overline{x_k}$ represents the mean of x_k, β_k is the coefficient obtained from ordinary least squares (OLS) model of x_k and μ is the proportion of relevant health outcome) by C_k where C_k is the concentration of that explanatory variable.

‡ The absolute contribution of each explanatory variable, x, to the overall C_n was calculated by multiplying "elasticity" of each explanatory variable (i.e., $\beta_k(\overline{x_k}\ /\mu)$, where $\overline{x_k}$ represents the mean of x_k, β_k is the marginal effect obtained from a logit model of x_k and μ is the proportion of relevant health outcome) by $C_k/1-\mu$, where C_k is the concentration of that explanatory variable.

§ The aggregate contributions (reported in bold font) are the sum of the contributions of all variables in each category. Percentage contributions in the brackets were calculated by dividing the corresponding aggregate contribution by the C or C_n.