CANADA’S RESIDENTIAL SCHOOL SYSTEM: MEASURING THE INTERGENERATIONAL IMPACT OF FAMILIAL ATTENDANCE ON HEALTH AND MENTAL HEALTH

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Indigenous Canadians

Relative population sizes

- First Nations (60.8%)
- Metis (32.3%)
- Inuit (4.2%)

Statistics Canada 2011
Background: Health disparities

- Health outcomes
  - Physical health indicators
    - Life expectancy at birth
    - Chronic conditions and infectious disease rates
  - Mental health indicators
    - Suicide and suicidal behaviors
    - Trauma-related disorders
    - Addictions

- Social determinants of health
  - Proximal
    - Health behaviors
    - Housing, food security, income, education, employment
  - Intermediate
    - Community resources: Access to services
    - Cultural continuity
  - Distal
    - Oppressive policies, colonialism, self-determination

(Adelson, 2005; Loppie-Reading & Wien, 2009; Statistics Canada, 2011)
Timeline of major events in the post-contact history of indigenous Canadians
Truth and Reconciliation offers 94 'calls to
Commission urges all levels of government to work together and advance reconciliation

By Susana Mas, CBC News  Posted: Dec 14, 2015 11:01 PM ET  |  Last Updated: Dec 15, 2015 8:08 PM ET

Residential school survivor Lorna Standingready is comforted by a fellow survivor during the closing ceremony of the Truth and Reconciliation Commission, at Rideau Hall in Ottawa on June 3, 2015. (Sean Kilpatrick/Canadian Press)
Recent literature

**Bombay et al.**
- 2011
- 143 First Nations respondents (on and off reserve)

**Elias et al.**
- 2012
- 2,953 First Nations respondents (on reserve)

**Kaspar**
- 2014
- 13,881 FN, Inuit and Métis respondents (off reserve)
Research question

Is residential school attendance of ANY older generation family member (a parent, aunt, uncle, or grandparent) associated with lower health and mental health status in subsequent generations?
Methods

- **Data**
  - 2012 Aboriginal Peoples Survey - Confidential micro-files at the Research Data Centre (RDC).
    - Cross-sectional

- **Sample**
  - Included: Off-reserve indigenous survey respondents aged 18+
  - Excluded: respondents who identified having a spouse, sibling, cousin, or ‘other’ relative who attended residential school.
    - Sample represents approximately 500,000 off-reserve indigenous Canadians
Framework

Ancestral attendance of residential school impacts on current generations’ health and mental health

- Plausible mechanisms
  - Biological pathways (possible)
    - Epigenetic changes such as: HPA axis arousal
    - Coping
    - Stable maladaptation
  - Psycho-social pathways
    - Parenting
    - Trauma-based symptoms
    - Isolation
  - Community pathways
    - Oppression
    - Cultural discontinuity
    - Structural resources
Models

- **SPH**: Ordered logistic regression, Excellent → Poor
- **SPMH**: Ordered logistic regression, Excellent → Poor
- **K-10**: Logistic regression, Binary (cut point at clinical threshold)
- **Suicidal ideation**: Logistic regression, Binary
- **Suicide attempt**: Logistic regression, Binary
## Variable selection

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Direct effect</th>
<th>Exogenous</th>
<th>Socio-demographic</th>
<th>Structural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-perceived health</td>
<td>RS attendance of parent, aunt, uncle, or grandparent</td>
<td>Age Sex Indigenous identity</td>
<td>Marital status Geographic area</td>
<td>Home in need of major repairs</td>
</tr>
<tr>
<td>Self-perceived mental health</td>
<td></td>
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<td>Labor force status</td>
<td>Food security</td>
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<tr>
<td>Kessler 10 Distress scale</td>
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<td>Minors in the home</td>
<td>Health behaviors</td>
</tr>
<tr>
<td>Suicidal ideation (past 12 months)</td>
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<td></td>
<td>Educational attainment Income (LICO-AT)</td>
<td></td>
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<tr>
<td>Suicide attempt (past 12 months)</td>
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</tbody>
</table>
Results: Descriptive statistics

- Self-perceived health:
  - Poor
  - Fair
  - Good
  - Very Good
  - Excellent

- Self-perceived mental health:
  - Poor
  - Fair
  - Good
  - Very Good
  - Excellent

Presence of family attendance of RS
Absence of family attendance of RS
Results: Descriptive statistics

K10

- Presence of family attendance of RS
- Absence of family attendance of RS
Results: Descriptive statistics

- Presence of family attendance of RS
- Absence of family attendance of RS

- Suicidal ideation
- Suicide attempt
Results: Self-perceived health and mental health

<table>
<thead>
<tr>
<th>FA of RS</th>
<th>SPH</th>
<th>SPMH</th>
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<tbody>
<tr>
<td>Direct</td>
<td>0.861*</td>
<td>0.770***</td>
<td>0.758***</td>
<td>0.801***</td>
<td>0.799**</td>
<td>0.0858</td>
<td>0.828**</td>
<td>0.901</td>
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<tr>
<td></td>
<td>(0.761, 0.974)</td>
<td>(0.671, 0.883)</td>
<td>(0.662, 0.869)</td>
<td>(0.690, 0.931)</td>
<td>(.696, .919)</td>
<td>(0.735, 1.003)</td>
<td>(0.711, 0.964)</td>
<td>(0.772, 1.053)</td>
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<tr>
<td>Exogenous</td>
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<td>0.758***</td>
<td>0.801***</td>
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<tr>
<td>Socio-demo</td>
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<td></td>
<td>0.799**</td>
<td>0.0858</td>
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<tr>
<td>Structural</td>
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<td>0.828**</td>
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</tr>
</tbody>
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*p<.05; **p<.01; ***p<.001
## Results: Kessler 10 distress scale

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<thead>
<tr>
<th>FA of RS</th>
<th>KESSLER-10 DISTRESS SCALE</th>
</tr>
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<tbody>
<tr>
<td>Direct</td>
<td>1.242* (1.041, 1.483)</td>
</tr>
<tr>
<td>Exogenous</td>
<td>0.933** (0.392, 1.474)</td>
</tr>
<tr>
<td>Socio-demo</td>
<td>1.073 (0.867, 1.328)</td>
</tr>
<tr>
<td>Structural</td>
<td>1.002 (0.792, 1.267)</td>
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</tbody>
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*p<.05; **p<.01; ***p<.001
### Results: Suicidal ideation and attempt (past year)

<table>
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<tr>
<th>FA of RS</th>
<th>SI</th>
<th>SA</th>
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<tbody>
<tr>
<td><strong>Direct</strong></td>
<td>1.661* (1.123, 2.458)</td>
<td>3.352*** (1.894, 5.931)</td>
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<tr>
<td><strong>Exogenous</strong></td>
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<td>1.352 (-2.452, -0.997)</td>
<td>2.572** (1.354, 4.886)</td>
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<tr>
<td><strong>Socio-demo</strong></td>
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<td></td>
<td>1.346 (0.855, 2.121)</td>
<td>2.358* (1.206, 4.610)</td>
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<tr>
<td><strong>Structural</strong></td>
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<td></td>
<td>1.181 (0.741, 1.882)</td>
<td>2.000* (1.023, 3.908)</td>
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*p<.05; **p<.01; ***p<.001
Limitations

- Intergenerational transfer of trauma is difficult to show through quantitative analysis, as data are not conducive to differentiating between cohort effects and omitted variables or considerations.
- Data is cross-sectional, not longitudinal.
- Missing data: being male was significantly and positively associated with missing-ness in all mental health outcomes.
- Our analysis only considers those indigenous Canadians living off-reserve.
Implications for policy and practice

22. We call upon those who can effect change within the Canadian health-care system to recognize the value of Aboriginal healing practices and use them in the treatment of Aboriginal patients in collaboration with Aboriginal healers and Elders where requested by Aboriginal patients.
Implications for policy and practice

**Practice:**
- Non-indigenous practitioners must become aware that present health symptoms may reflect mechanisms of pathology not immediately observable.
- Consulting with indigenous groups to develop a culturally sensitive means of inquiring as to the residential school attendance of family members including of *any* ancestors, could improve holistic, person-centered, and culturally appropriate understanding and framing of health issues for indigenous peoples.
Implications for policy and practice

**Health**

18. We call upon the federal, provincial, territorial, and Aboriginal governments to acknowledge that the current state of Aboriginal health in Canada is a direct result of previous Canadian government policies, including residential schools, and to recognize and implement the health-care rights of Aboriginal people as identified in international law, constitutional law, and under the Treaties.

TRC 2015: Calls to action
Implications for policy and practice

Policy:
- Policy remedies in terms of health require a deeper understanding and awareness both within and outside of health systems of the policy legacies of residential schools on current indigenous Canadians’ health and wellbeing.
- Improving the health and wellbeing of indigenous Canadians is an obvious public health policy goal in terms of equity and sustainability of health systems.
Hackett C, Feeny D, Tompa E. Canada’s residential school system: measuring the intergenerational impact of familial attendance on health and mental health outcomes, *Journal of Epidemiology and Community Health* (In press) doi:10.1136/jech-2016-207380


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