

# Correlates of Participation in Sports and Physical Activities among Indigenous Youth

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# Outline

- Importance of physical activity
- What we know: Level of participation in sports and physical activities (S/PA) / Correlates of participation in S/PA
- Current study: Objectives / Methodology / Results
- Next steps
- Questions / Discussion

# Participation in physical activity

- Physical activity guidelines: 60 mins/day of moderate-to-vigorous physical activity on at least 6 days a week
- Worldwide: 80% of youth are insufficiently active (WHO)
- Canada: Only 9% of boys and 4% of girls meet these guidelines (2007-2009 CHMS)

# Participation: Indigenous youth

- Limited research available on Indigenous youth in Canada
- Off-reserve: more active than their non-Indigenous peers
- On-reserve: lower levels of physical activity:
- 69% of participated in sports at least once a week (2016 APS)

# Correlates of participation

- Participation among Non-Indigenous and Indigenous youth:
  - Decreases with age / is lower among female
- Factors unique to Indigenous youth:
  - Off-reserve: parental education / contact with Elders / extracurricular activities / health / income / TV/computer
  - On-reserve: Aboriginal language / living in balance spiritually / living with a biological parent / community size

# Ecological models of health behaviour

- Particularly applicable to Indigenous population
- Take into consideration multiple levels of influence
- Move beyond the proximal determinants of health
- Encourage to consider broader community, organizational, historic, political, social, and economic factors

# Historical factors

- Importance of historical factors: colonization, dispossession of traditional lands and assimilative policies (residential school system)
- A more comprehensive understanding of the role of these factors will clarify how influences on health behaviours operate at diverse levels, which will better inform policies and interventions to improve the physical activity levels among Indigenous youth in Canada

# Objectives

- Gap: lack of research examining the relative importance of contextual factors which affect youth's participation in S/PA
- Objectives: to assess the independent effects of correlates of participation in S/PA, operating at multiple levels of influence, in a nationally representative sample of off-reserve Indigenous youth (ages 12-17)



# Data and sample

- Data source: the 2012 Aboriginal Peoples Survey (APS)
- Sample:
  - Age 12 to 17 at the time of the interview
  - Attended elementary or high school (grades 7 to 12)
  - Single Indigenous identity: First Nations, Métis and Inuit
  - N=4,790

# Measurement instruments: youth

- Participation in S/PA: “At any time during this school year, did you (or your child) participate in a sport or a physical activity or played organized sports (including taking lessons)”
- Demographics and Indigenous Identity: Sex / Age / First Nations-Status Indian / First Nations-Not Status Indian / Métis / Inuit
- Health Status / Smoking / Drinking
- Knowledge of Aboriginal Language

# Instruments: interpersonal & family

- Spending Time with Elders / Participation in Indigenous Cultural Activities
- Participation in Extracurricular Activities (art, drama or music groups; clubs; volunteered in community) / Working during School Year
- Parental Education / Household Income
- Parental School Involvement
- Family Type / Siblings under 18 / Family Ties

# Instruments: contextual

- Residential School Attendance (mother / father / one of the grandparents)
- School Environment (positive / negative)
- Community Type

# Statistical analysis

- Logistic regression: unadjusted estimates / adjusted estimates
- Sampling weights and bootstrap weights
- No missing data: age, sex, ethnic identity, household income
- Non-ignorable missing data: residential school, parental education (separate categories for missing values)
- Missing at random: all other variables (multiple imputations)

# Results: Prevalence & unadjusted

- Overall participated in S/PA: 63.2% of youth (65% in the 2006 APS)
- Unadjusted estimates: most of the correlates had statistically significant effects, except for:
  - Residential school attendance by grandparents / siblings under 18 (removed from the model;  $p > 0.2$ )
  - Knowledge of Aboriginal language / working during school year / drinking (retained in the model  $p < 0.2$ )

# Results: Adjusted estimates

- Sex (male) / Age (younger)
- Participation in Indigenous cultural activities (participated)
- Volunteering in community (volunteered)
- Health status (healthier) / drinking behaviour (drinkers)
  
- Parental involvement in school activities (involved)
- Family type (couples with children)
- Strength of family ties (stronger ties)

# Results: youth

Variable	Unadjusted	Adjusted
	OR	aOR
Sex (male)	<b>1.12 *</b>	<b>1.22 *</b>
Age	<b>0.81 *</b>	<b>0.86 *</b>
Indigenous Identity		
FN-Not Status		0.00
FN-Status	0.87	0.94
Metis	0.95	0.96
Inuit	<b>1.39 *</b>	1.18
Health Status	<b>1.61 *</b>	<b>1.43 *</b>
Smoking	<b>0.72 *</b>	0.88
Drinking	0.92	<b>1.17 *</b>
Aboriginal language	1.08	0.98



# Results: interpersonal & family

Variable	Unadjusted	Adjusted
	OR	aOR
Time with Elders	<b>1.27</b> *	1.13
Indigenous Cultural Activities	<b>1.31</b> *	<b>1.23</b> *
Art, Drama and Music Groups	<b>1.27</b> *	1.06
Clubs	<b>1.34</b> *	1.05
Volunteering in Community	<b>1.38</b> *	<b>1.20</b> *
Worked during School Year	1.08	1.12
Family Type (lone parent)	<b>0.75</b> *	<b>0.77</b> *
Siblings under 18	1.04	N/A
Parental Involvement in School	<b>1.85</b> *	<b>1.52</b> *
Family Ties	<b>1.23</b> *	<b>1.16</b> *
Educational Attainment - Mother	<b>1.43</b> *	1.21
Educational Attainment - Father	<b>1.35</b> *	0.98
Household Income	<b>1.07</b> *	1.01

# Results: context

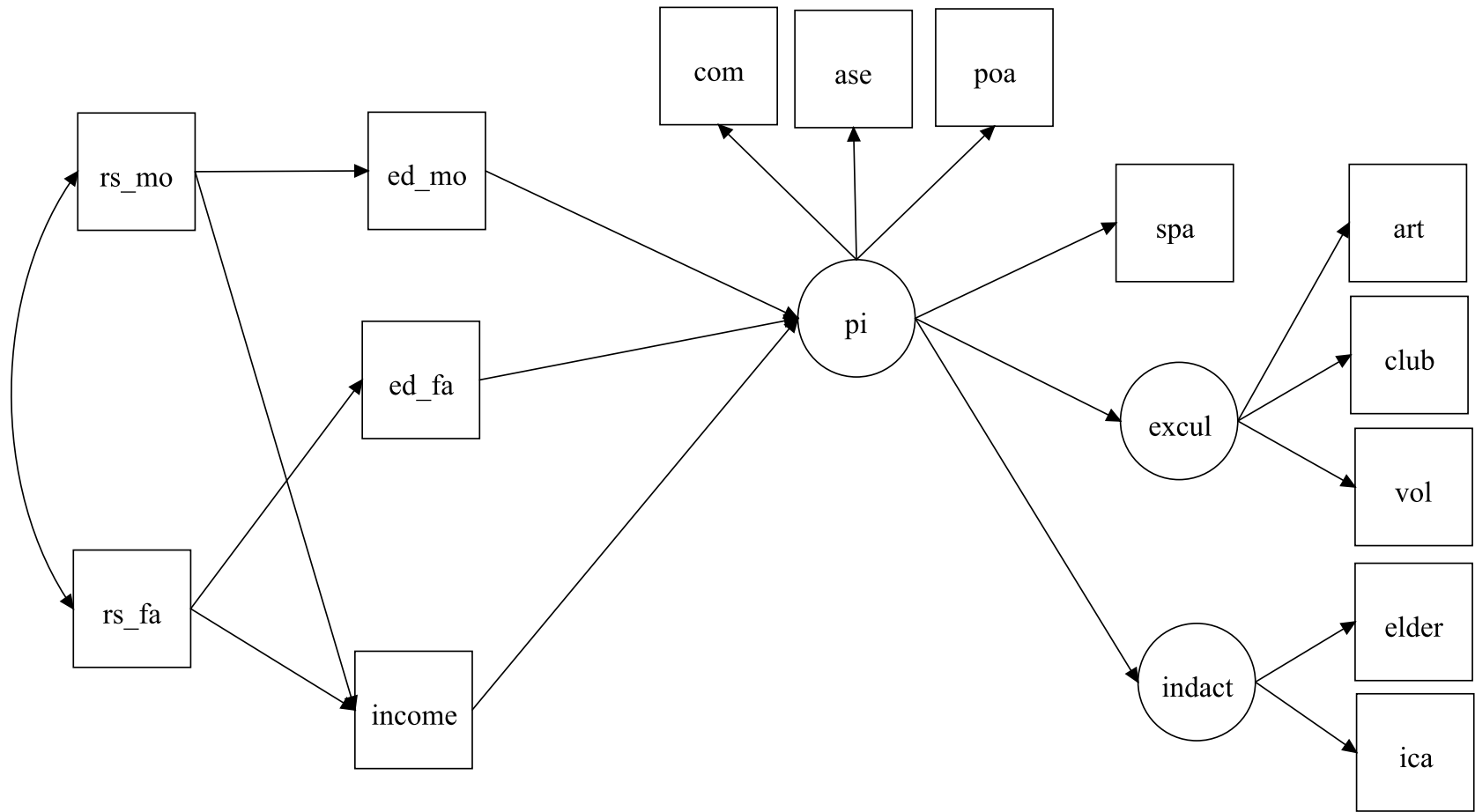
Variable	Unadjusted	Adjusted
	OR	aOR
Residential School - Grandparents	1.02	N/A
Residential School - Mother	<b>1.48</b> *	1.24
Residential School - Father	<b>1.47</b> *	1.18
Positive School Environment	<b>1.36</b> *	0.95
Negative School Environment	<b>0.82</b> *	0.96
Community Type (urban)	<b>0.88</b> *	0.96

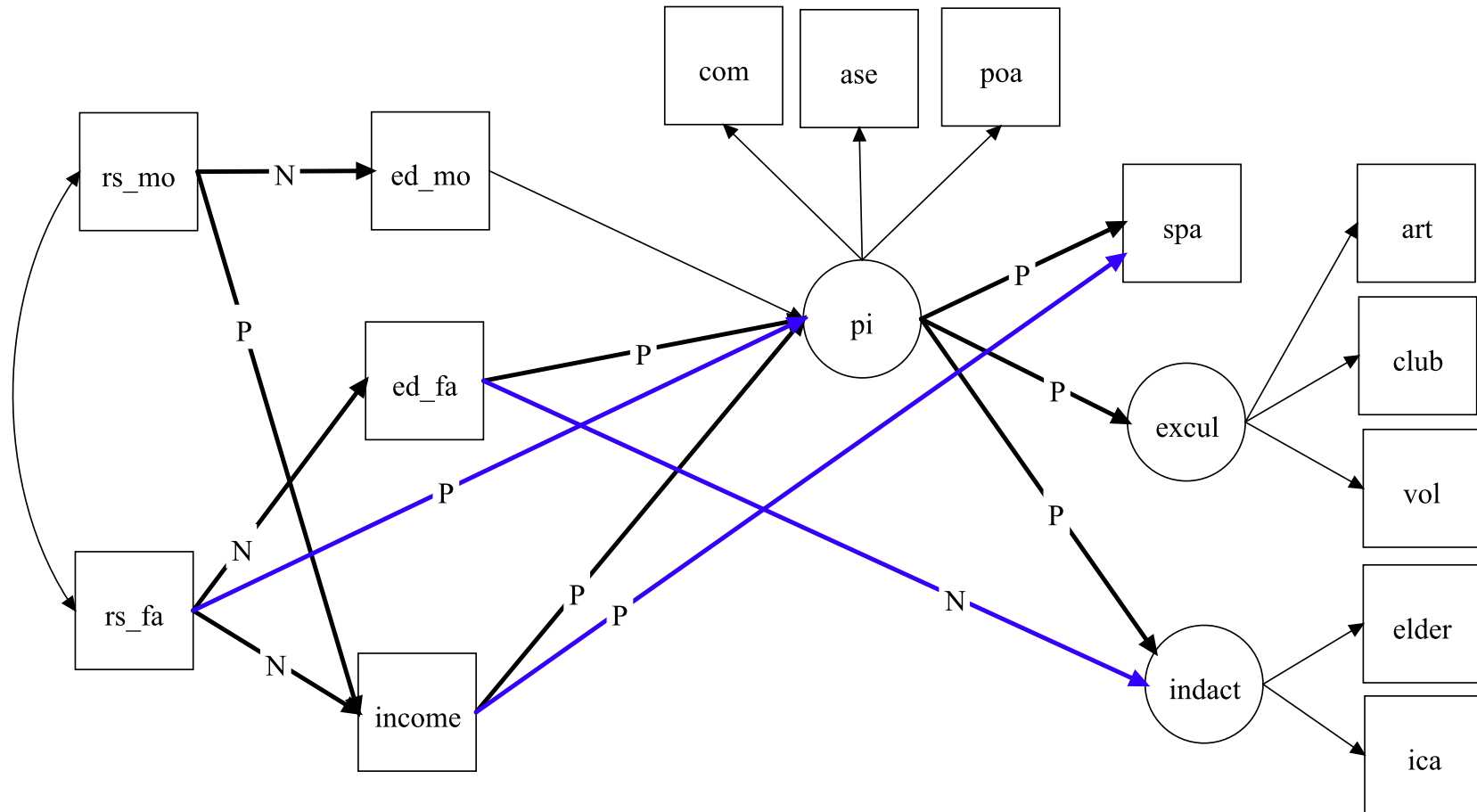
# Conclusions

- It is concerning that many Indigenous youth do not participate in S/PA, given the high rates of obesity
- Understanding how particular factors affect participation in S/PA is necessary to develop and implement appropriate programs that will help minimize the rates of inactivity
- Key factors: Age / Sex / ???

# Limitations

- Study design: a cross-sectional design cannot infer any causal relationships (longitudinal design)
- Measurement tools: a limited number of culturally sensitive predictors of physical activity (new measurement tools)
- Data analysis: the additive nature of regression models (meditational models)





# Indirect effects of residential school

- Model fit: Chi-square=259.855 (62 df) / CFI=0.969 / TLI=0.954 / RMSEA=0.026 (CI: 0.023-0.029)
- Residential School-Mother → S/PS: ns
- Residential School-Father → S/PS: 0.041\*
  - rs\_fa → income → spa: -0.005\*
  - rs\_fa → pi → spa: 0.054\*
  - rs\_fa → ed\_fa → pi → spa: -0.006\*
  - rs\_fa → income → pi → spa: -.002\*