

# **Workplace social capital and work-related injury in Canada: a cross-sectional analysis**

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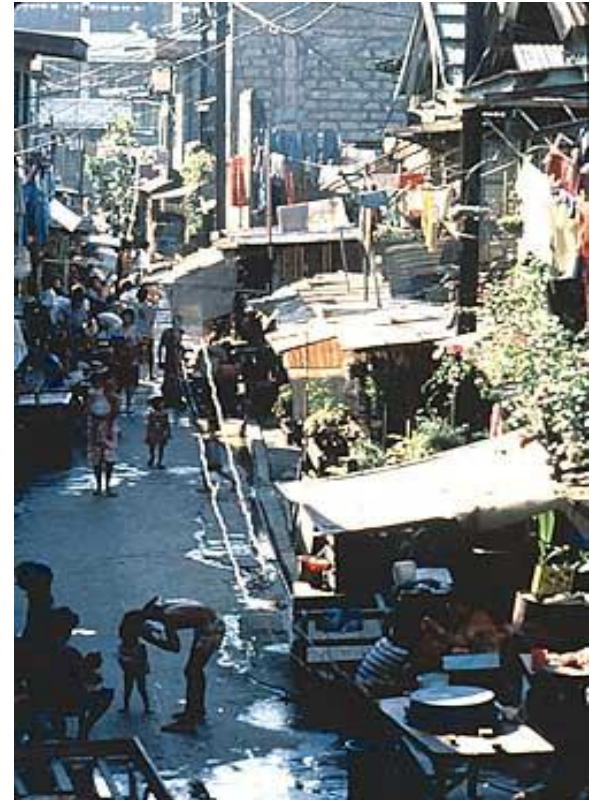


# Social Determinants of Health

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- Education
- Employment
- Social Class
- Housing
- Income
- Social Capital



# What is Workplace Social Capital?

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**“Resources embedded in social networks  
within the workplace”**

# Workplace Social Capital & Health

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- Workplace social capital is associated with
  - Poor general health (Oksanen *et al.*, 2008)
  - Co-occurrence of lifestyle risk factors (smoking, heavy drinking, physical inactivity) (Väänänen A, *et al.*, 2009)
  - Depression (Kouvonen *et al.*, 2008a)
  - Smoking cessation (Kouvonen *et al.*, 2008b)
- What about workplace injury?

# Plausibility

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- Positive work atmosphere
  - Trust and common values
- Lead to social support
- Ability to build and maintain a safe workplace (safety culture)
- Reduce work-related injury

# Research Question

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Is there a cross-sectional relationship between workplace social capital and work-related injury in Canada?

# Specific Aims

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- To determine association between workplace social capital and work-related repetitive injury
- To determine association between workplace social capital and work-related most serious injury

# Study Design

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- Cross-sectional
- Canadian Community Health  
Survey, 2005, cycle 3.1



# Population

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## Inclusion criteria:

- Working in the past 12 month
  - Did YOU work at a job or a business at any time in the past 12 months
- Completed the social capital questions
  - Optional Content: Saskatchewan & Quebec
- Age 15-75

# CCHS Social Capital Questions

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- **You were exposed to hostility or conflict from the people you worked with.**
- **Your supervisor was helpful in getting the job done**
- **The people you worked with were helpful in getting the job done.**
- *Responses:* Strongly agree to Strongly disagree

# Exposure Measure

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- Derived Workplace social capital scale from 3 questions (12 levels)
- Categorized into three groups:
  - High (Levels 0-4)
  - Medium (Levels 5-8)
  - Low (Levels 9-12)

# Outcome # 1 - RSI

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- Repetitive strain injury at work
  - In the past 12 months did YOU have any injuries due to repetitive strain which were serious enough to limit YOUR normal activities?
  - What type of activity were YOU doing when YOU got this repetitive strain? (Sports, Leisure, **Working at a job or business**, Household chores, Sleeping, eating, personal care)

# Outcome # 2 – Serious injury

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- Most serious injury at work
  - Not counting repetitive strain injuries, in the past 12 months were YOU injured?
  - What type of activity were YOU doing when YOU were injured? (Sports, Leisure , **Working at a job or business**, Household chores, Sleeping, eating, personal care)

# Comparison groups

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- Two control groups for each outcome
  - Injured outside work
  - Not injured at all
- Assess unmeasured “risky behaviour” or proneness to injury

# Covariates

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- Demographic (*Age, Sex, Education*)
- Health Status (*Self-rated health, mental health, BMI, Physical activity, Depression*)
- Behaviour (*Smoking*)
- Job Factors (*Job satisfaction, Work authority, Work physical and Psychological demand, Work insecurity, decision latitude*)
- Employment status (*Work hour, PT/FT, Student work, income*)

# Statistical Analysis

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- Descriptive analysis
  - Frequency and contingency tables
- Multivariable logistic regression
  - 1st step: Identify effect modifiers
  - 2nd step: Identify extraneous variables
  - 3rd step: Final model of work injury and social capital



# Characteristics of the Population

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- 54% Male
- 64% Post-secondary education
- 95% Good SR health
- 47% Overweight or obese
- 51% Physically inactive
- 28% Smokers
- 83% FT employment
- 17% Students
- 65% Family Income > \$50,000

# Prevalence of work-related repetitive strain and serious injury by workplace social capital

Workplace social capital status	Total n=20,661	Work-related Repetitive strain injury (n=1400)	Work-related serious injury (n=700)
High	52.4%	43.0%	51.0%
Medium	44.2%	50.1%	44.0%
Low	3.5%	6.9%	3.7%

# Odds Ratios for Work-related RSI and Workplace Social Capital, Injured comparison

Workplace Social Capital	Males OR (95% CI)*	Females OR (95% CI)†
Low	1.0 (ref)	1.0 (ref)
Medium	0.71 (0.37-1.37)	0.71 (0.3 - 1.70)
High	0.72 (0.38 -1.40)	<b>0.36 (0.15 - 0.86)</b>

\* Controlled for: Decision latitude, FT/PT status, student job, income

† Controlled for: age, BMI, physical activity, job satisfaction, work Authority, work physical demand, FT/PT status, income

# Odds Ratios for Work-related RSI and Workplace Social Capital, Non-injured comparison

Workplace Social Capital	Males OR (95% CI)*	Females OR (95% CI)†
Low	1.0 (ref)	1.0 (ref)
Medium	0.66 (0.44 - 0.98)	0.63 (0.46 - 0.88)
High	0.64 (0.43 - 0.96)	0.45 (0.32 - 0.63)

\* Controlled for: SR health, job satisfaction, work psychological demand, FT/PT status, income

† Controlled for: BMI, depression, job satisfaction, work Authority and decision latitude, work insecurity, work physical demand, FT/PT status.

# Odds Ratios for Work-related Serious Injury and Workplace Social Capital

Workplace Social Capital	Injured Comparison OR (95% CI)*	Non-injured Comparison OR (95% CI)†
Low	1.0 (ref)	1.0 (ref)
Medium	0.72 (0.42 - 1.24)	1.10 (0.69 - 1.71)
High	0.86 (0.50 - 1.47)	1.12 (0.71 - 1.75)

\* Controlled for: Job satisfaction, FT/PT status, student job, income

† Controlled for: job satisfaction, FT/PT status.

# Strengths & Limitations

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## ➤ Strengths

- Large population
- High-quality data  
with many covariates
- 2 comparison groups
- Independent  
associations

## ➤ Limitations

- Cross-sectional design  
– temporality, causality
- Self-report measures
- Social capital based  
on main job
- Injuries severe enough  
to limit normal  
activities

# Discussion

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- RSI vs. Serious Injury
  - Association between aspects of social capital and chronic outcomes (i.e., low back pain)
- Male vs. Female for RSI and social capital
- Slight differences between control groups explained by statistical power and demographic distributions

# Conclusion

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- Low workplace social capital was associated with work-related repetitive injury but not with most serious injury
- The association was more apparent in females than males



# More Information?

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- Email:

[vkristma@uhnresearch.ca](mailto:vkristma@uhnresearch.ca)

- Web sites:

[www.uhnresearch.ca](http://www.uhnresearch.ca)

[www.creido.ca](http://www.creido.ca)

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Thank you  
Merci