Young Worker Injury Prevention
Why Young Workers?

1) Higher risk
   • Training and supervision
   • Experience
   • Speaking up

2) Safety Culture
   • Provincial change
Young Workers

Junior Youth
- 14-18
- High School
- Risks/Hazards

Senior Youth
- 19-24
- Influences
- Experiences
What’s Happening

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Loss Injury Rate Under 25</td>
<td>3.97%</td>
<td>3.47%</td>
<td>3.07%</td>
<td>2.94%</td>
<td>2.80%</td>
<td>2.54%</td>
<td>2.45%</td>
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<tr>
<td>Time Loss Injury Rate 25 and Over</td>
<td>3.64%</td>
<td>3.43%</td>
<td>3.13%</td>
<td>3.08%</td>
<td>2.79%</td>
<td>2.54%</td>
<td>2.40%</td>
</tr>
<tr>
<td>Total Injury Rate Under 25</td>
<td>12.89%</td>
<td>11.04%</td>
<td>10.29%</td>
<td>10.72%</td>
<td>10.78%</td>
<td>9.76%</td>
<td>8.96%</td>
</tr>
<tr>
<td>Total Injury Rate 25 and Over</td>
<td>9.64%</td>
<td>8.97%</td>
<td>8.39%</td>
<td>8.35%</td>
<td>8.25%</td>
<td>7.44%</td>
<td>6.64%</td>
</tr>
</tbody>
</table>
# What’s Happening

## Youth Percentage of Injuries by Industry Class

<table>
<thead>
<tr>
<th>Class</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># of Claims</td>
<td>% of Claims</td>
<td># of Claims</td>
<td>% of Claims</td>
<td># of Claims</td>
<td>% of Claims</td>
<td># of Claims</td>
</tr>
<tr>
<td>B</td>
<td>1240</td>
<td>32.5%</td>
<td>1089</td>
<td>30.5%</td>
<td>1165</td>
<td>29.7%</td>
<td>1216</td>
</tr>
<tr>
<td>C</td>
<td>2064</td>
<td>30.7%</td>
<td>1711</td>
<td>27.2%</td>
<td>1630</td>
<td>27.1%</td>
<td>1517</td>
</tr>
<tr>
<td>R</td>
<td>207</td>
<td>25.9%</td>
<td>173</td>
<td>24.4%</td>
<td>187</td>
<td>24.6%</td>
<td>253</td>
</tr>
<tr>
<td>S</td>
<td>1324</td>
<td>29.8%</td>
<td>1130</td>
<td>26.0%</td>
<td>985</td>
<td>22.6%</td>
<td>970</td>
</tr>
<tr>
<td>D</td>
<td>521</td>
<td>23.0%</td>
<td>332</td>
<td>19.1%</td>
<td>445</td>
<td>21.0%</td>
<td>572</td>
</tr>
<tr>
<td>M</td>
<td>1631</td>
<td>27.1%</td>
<td>1087</td>
<td>23.3%</td>
<td>783</td>
<td>19.7%</td>
<td>830</td>
</tr>
<tr>
<td>A</td>
<td>160</td>
<td>22.4%</td>
<td>188</td>
<td>23.3%</td>
<td>123</td>
<td>19.3%</td>
<td>108</td>
</tr>
<tr>
<td>T</td>
<td>272</td>
<td>14.4%</td>
<td>201</td>
<td>12.0%</td>
<td>214</td>
<td>13.3%</td>
<td>333</td>
</tr>
<tr>
<td>U</td>
<td>22</td>
<td>7.7%</td>
<td>19</td>
<td>7.5%</td>
<td>24</td>
<td>9.8%</td>
<td>18</td>
</tr>
</tbody>
</table>

*Note: The table above illustrates the number and percentage of youth injuries by industry class from 2008 to 2013. The total percentage of youth injuries for all classes is 29.7%.*
What’s Happening?

Youth Percentage of Injuries by Industry Class

- Building Construction
- Commodity
- Road Construction
- Service
- Development/Mineral Resources
- Manufacturing
- Agriculture
- Transportation
- Utility Operations
What’s Happening?

Top 5 Part of body – 2010-2014

Hand
Back
Leg
Arm
Eye
What’s Happening?

Percentage of Youth Injuries by Cause Category

- Contact with objects and equipment: 46%
- Bodily reaction and exertion: 23%
- Other events or exposures: 9%
- Exposure to harmful substances or environments: 9%
- Falls: 9%
- Other: 4%
- Other: 9%
What’s Happening?

Gender Separation – Total Injury Rates

- Female
- Male
What’s Happening?

Youth Claims from 2009-2014 by Month

![Graph showing youth claims from 2009-2014 by month. The graph includes two lines: one for those aged 19 to 24, and another for those aged 14 to 18. The graph indicates a general upward trend for the 19 to 24 age group, with fluctuations throughout the year, while the 14 to 18 age group shows a more consistent pattern with minor variations.]
Construction (B)

Top 4 Causes

- Struck by object: 8000
- Overexertion: 3000
- Bodily reaction: 2000
- Struck against object: 1000
Construction (B)

Top 4 injuries

- Cuts, lacerations: 6000
- Sprains, strains, tears, uns: 4000
- Soreness, pain, hurt, except the back: 2000
- Foreign bodies (superficial splinters, chips): 1000

 MISSION: ZERO

WorkSafe SASKATCHEWAN
Work to live.
Construction (B)

Top 4 Parts of Body Injured

- Hand: 2400
- Eye: 900
- Leg: 800
- Back: 600

[Graph showing the top 4 parts of the body injured with the hand being the most common at 2400 cases, followed by the eye, leg, and back at 900, 800, and 600 cases respectively.]
Why Young Workers are at Higher Risk?

- Experience
- Uncomfortable asking questions
- “Wait and see”
- Perceive risk differently
- Relationship with supervisor
Our Goal

- Change attitude and behavior
- Push in the same direction
- Injury reduction
- Influence young workers → 4 Pillars
  - Education System
  - Community
  - Parents
  - Peers
Where are we Going to Start?

- Orientation for young workers
  - Voice
  - Hazards
  - New to employment
- Multi-Faceted
- Employers and Supervisors
- Comprehensive and Consistent
Questions
Young Worker Safety Research: How Employers can Make a Difference

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Faculty of Business Administration
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Acknowledgements

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Introductory Remarks

- My journey researching young worker safety

- The findings presented today illustrate the kind of research being conducted. Nearly all of the findings are based on recent Canadian data.
Safety Climate
Safety Climate/Culture

The extent to which employees perceive that safety and safe behaviour is genuinely valued and rewarded in an organization (Zohar, 2010)

Safety climate speaks to the relative importance of safety in a setting (Zohar, 2010) and is a leading indicator of safety performance.
Personality versus Safety Climate as Predictors of Safety Behaviour

A recent meta-analyses found that safety climate and personality explained 28% and 15% of employee safety behaviour, respectively.

## Personality versus Safety Climate as Predictors of Injuries

<table>
<thead>
<tr>
<th>Personality</th>
<th>Situation (Shared perceptions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conscientiousness (-)*</td>
<td>Management commitment to safety (-)**</td>
</tr>
<tr>
<td>Neuroticism (+)*</td>
<td>HRM practices (-)**</td>
</tr>
<tr>
<td>Locus of control (-)*</td>
<td>Safety systems (-)**</td>
</tr>
<tr>
<td>Job attitudes (-)*</td>
<td>Work pressure (+)**</td>
</tr>
<tr>
<td>Extraversion (0)</td>
<td>Supervisor support for safety (-)*</td>
</tr>
<tr>
<td>Risk taking (0)</td>
<td>Leadership (-)*</td>
</tr>
</tbody>
</table>

* Weak/**Moderate relationship with injuries and accidents

Personality versus Safety Climate as Predictors of Safety Behaviour and Injuries

Overall, research shows that the work environment (e.g., quality of supervision, work pressure) is the strongest predictor of employee safety behaviour and injuries.

Implication for employers: Primary focus should be on improving the work environment rather than trying to select “safe” workers.
Young Workers and Safety
Young Workers and Safety

1st lost-time claim rate by age group and job tenure.
Adjusted for occupation, industry and gender.

Per 100 FTEs

Source: Breslin & Smith, 2006
Young Workers and Safety

- 15-19 and 20-24 year old males have a higher injury rate than adult males (25+ years). Among females, adult females have highest injury rate, followed by 15-19 year olds and 20-24 year old females. Age was positively associated with injury severity (Breslin et al., 2003)

- Controlling for job characteristics did not eliminate the elevated risk of injury among adolescent and young males, and young females. In other words, the increased risk of injury for young workers could not be explained by differences in jobs. (Breslin and Smith, 2005)
“Even when factors expected to vary by province such as occupation were statistically controlled, Saskatchewan youth were about twice as likely to be injured at work compared to Ontario youth.” (Breslin & Smith, 2006).
How do young people respond to unsafe working conditions over time?
Key Safety Behaviours

**Voice** (e.g., Tell my supervisor about hazardous work)

**Patience** (e.g., Adapt to safety conditions until the situation improves, find a way to protect myself from being hurt at work)

**Compliance** (e.g., Wear protective clothing/equipment)

**Neglect** (e.g., Take short cuts that threaten my personal safety)
Study 1: Responses to Unsafe Work

- When confronted with hazards most interviewees said they take a wait and see approach.
- May speak up about a hazard as a last resort or if there is a threat of a severe injury.
- Unlikely to quit a job due to unsafe conditions

Study 2: Predictors and Consequences of Speaking up About Safety

- 155 employed teenagers ($M$ age = 17 years; 63% female)
- 3 surveys, one month apart over 3-month school break
- Most common occupational contexts:
  - food service (34%)
  - grocery (24%)
  - retail (13%)

Predicting Voice

Ideas for Improving Safety (T1) → Voice (T2)
Predicting Voice

Org. Commitment (T1)

Ideas for Improving Safety (T1) → Voice (T2)
Predicting Voice

![Graph showing the relationship between Low Safety Ideas T1 and High Safety Ideas T1 with Low Affective Commitment T1 and High Affective Commitment T1.](image)
Consequences of Voice

Voice (T2) → Injuries (T3)
Consequences of Voice

- Supervisor Openness (T2)
- Voice (T2) → Injuries (T3)
Consequences of Voice
Predictors and Consequences of Voice

Org. Commitment (T1)

Supervisor Openness (T2)

Ideas for Improving Safety (T1)

Voice (T2)

Injuries (T3)
Study 2: Summary of Results

- Real consequences of having ideas about improving safety and voicing

- Relationship held even for sample with low organizational tenure

- Short-time over which safety voice→injuries relationship may take effect
Study 3: Scenario With 3 Conditions

Same:

One month into new job in a restaurant kitchen, not much effort by co-workers in keeping kitchen clean, newly hired employees received no work/safety-related training, spills rarely cleaned up in a timely way, co-workers never really talk about safety, several co-workers have been hurt in last month, most of these injuries occur often and occasionally require medical attention…
Study 3: Scenario With 3 Conditions

Same:
One month into new job in a restaurant kitchen, not much effort by co-workers in keeping kitchen clean, newly hired employees received no work/safety-related training, spills rarely cleaned up in a timely way, co-workers never really talk about safety, several co-workers have been hurt in last month, most of these injuries occur often and occasionally require medical attention…

What differs across the three scenarios:

Supervisor has reputation for (1) caring about, (2) not caring about, or (3) unclear whether they care about safety

and

Supervisor is (1) open to suggestions about safety, (2) not open to suggestions about safety, or (3) unsure whether they are open to suggestions about safety
Study 3: Scenario with 3 Conditions

• Approximately 40 respondents to each scenario

• 58% female. Average age = 26 years (range 15 to 60 years)

• No differences in age composition, gender composition, or fear of injury among the three scenarios

• Manipulation ‘worked’: Condition 1 felt the supervisor cared more about safety than Conditions 2 or 3

• Equal sense across groups how “real” the scenarios seemed

I Feel “Safe” Speaking Up about Safety Concerns

- Clear that supervisor cares
- Clear that supervisor doesn't care
- Unclear if supervisor cares
I’m Worried I Could Lose my Job if I Spoke Up about Safety Concerns
Worried I Could Lose Hours if I Spoke Up about Safety Concerns
Speaking up to my Supervisor

Voice intentions to supervisor

- Clear that supervisor cares
- Clear that supervisor doesn't care
- Unclear if supervisor cares
Differences between Young Workers (<25) and Older Workers (25+)

Voice intentions to supervisor

- Clear that supervisor cares
- Clear that supervisor doesn’t care
- Unclear if supervisor cares

YW_OW

- Older workers
- Young workers
Study 3: Summary of Results

- Supervisors who communicate they care about safety encourage workers to speak up about safety concerns, compared to supervisors who don’t seem to care.
- Even bigger differences on extent to which respondents fear losing hours (or even their jobs) by raising safety suggestions to supervisors who care vs. supervisors who don’t care.
- Having a supervisor who is unclear (“does nothing”) about whether they care about safety can be worse than having a supervisor who explicitly doesn’t care about safety.
- Young participants (<25 years) and older participants (25+ years) had similar voice intentions except when a supervisor was unclear (YW higher voice than older workers)
Study 4: 15 Month Longitudinal Study

- Data collected from an average of ~160 teenaged workers in Manitoba over a 15 month period (June 2011 and September 2013) with a survey completed once a month.
- ~110 parents/guardians participated in Months 3, 7, and 11.
- Monthly survey options for youth: Employed (same job as previous month), Employed (new job), and Unemployed

### 2011-13, Percentage of Participants who Received Job Safety Training for a New Job by Type (N=189)

<table>
<thead>
<tr>
<th>No Training</th>
<th>WHMIS training</th>
<th>Co-worker trained</th>
<th>Supervisor trained</th>
<th>Safety supervisor trained</th>
<th>Training workshop</th>
</tr>
</thead>
<tbody>
<tr>
<td>20%</td>
<td>34%</td>
<td>56%</td>
<td>56%</td>
<td>14%</td>
<td>12%</td>
</tr>
</tbody>
</table>

### 2009, Percentage of Participants who Received Job Safety Training for a New Job by Type (N=55)

Table 4: Percentage of participants who received job training for a new job by type (N = 55)

<table>
<thead>
<tr>
<th>No training</th>
<th>WHMIS training</th>
<th>Co-worker trained</th>
<th>Supervisor trained</th>
<th>Safety supervisor trained</th>
<th>Training workshop</th>
</tr>
</thead>
<tbody>
<tr>
<td>22%</td>
<td>25%</td>
<td>44%</td>
<td>49%</td>
<td>15%</td>
<td>22%</td>
</tr>
</tbody>
</table>
Job and Safety-Related Training During First Shift (Months 6-15, N = 109)

During my first shift, my employer provided me with job-related training

During my first shift, my employer provided me with job-related safety training
Topics Discussed During Hiring Process  
(N = 189, 1 = No discussion to 5 = A lot of discussion)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Discussion Topic</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>My employer's expectation of my job performance</td>
<td>3.62</td>
</tr>
<tr>
<td>2</td>
<td>Scheduling</td>
<td>3.54</td>
</tr>
<tr>
<td>3</td>
<td>Weekly pay</td>
<td>3.48</td>
</tr>
<tr>
<td>4</td>
<td>Job-related training</td>
<td>3.48</td>
</tr>
<tr>
<td>5</td>
<td>My interest in the job</td>
<td>3.47</td>
</tr>
<tr>
<td>6</td>
<td>Required clothing</td>
<td>3.39</td>
</tr>
<tr>
<td>7</td>
<td>Duration of the job</td>
<td>3.27</td>
</tr>
<tr>
<td>8</td>
<td>My employer's expectation of my safety behaviour</td>
<td>3.27</td>
</tr>
<tr>
<td>9</td>
<td>My expectations of job-related training*</td>
<td>3.23</td>
</tr>
<tr>
<td>10</td>
<td>My expectation of the job</td>
<td>3.15</td>
</tr>
<tr>
<td>11</td>
<td>Required tools/equipment</td>
<td>3.05</td>
</tr>
<tr>
<td>12</td>
<td>My expectations of workplace safety conditions</td>
<td>3.03</td>
</tr>
<tr>
<td>13</td>
<td>Hourly pay</td>
<td>2.92</td>
</tr>
<tr>
<td>14</td>
<td>My performance at my previous jobs(s)</td>
<td>2.88</td>
</tr>
</tbody>
</table>
Key Safety Behaviours

Voice (e.g., Tell my supervisor about hazardous work)

Patience (e.g., Adapt to safety conditions until the situation improves, find a way to protect myself from being hurt at work)

Compliance (e.g., Wear protective clothing/equipment)

Neglect (e.g., Take short cuts that threaten my personal safety)
Amount of Discussion an Employer has about their Expectations of New Employee’s Safety Behaviour at T0: Voice T0-T13
Amount of Discussion an Employer has about their Expectations of New Employee’s Safety Behaviour at T0: Compliance T0-T13

- High level of cint13 (>3.36)
- Low level of cint13 (<3.36)
Voice By High and Low Levels of Supervisor Openness to Safety (Average at T1)
Patience By High and Low Levels of Supervisor Openness to Safety (Average at T1)

- High level of so (>3.71)
- Low level of so (<3.71)
Compliance By High and Low Levels of Supervisor Openness to Safety (Average at T1)

High level of so (>3.71)

Low level of so (<3.71)
Nelgect By High and Low Levels of Supervisor Openness to Safety (Average at T1)
Study 5: Young Workers and Training

- 66% received safety training
  - 48% equipment safety
  - 46% PPE
  - 44% where to get help in unsafe situations
  - 44% reporting hazards
  - 43% identifying and handling toxic chemicals

- Delivery of safety training
  - 44% watched a video
  - 30% watch someone do the job

Study 5: Young Workers and Training

- Training in accommodation and food services
  - 44% dealing with angry customers
  - 41% robbery
  - 37% sexual harassment
- Training in retail industry
  - 48% dealing with angry customers
  - 53% robbery
  - 44% sexual harassment

Insights for Employers

- Research shows that the work setting has the most influence on safety outcomes
- More and better quality training is needed
- Low prevalence of safety-related discussions during the hiring process and first shift
- Importance of employers discussing expectations of safety behaviour at the beginning of a job
- Nature of and **critical** importance of supervisor openness
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