HEALTH PROBLEMS EXPERIENCED BY YOUTH ENGAGED IN VIOLENT BEHAVIOR

William Pickett

On behalf of many international colleagues:

Violence and Injuries Focus Group
Health Behaviour in School-Aged Children
Aims

- To provide cross-national estimates of the prevalence of violence among children aged 11-15 years

- To examine combined health effects of physical fighting and weapon carrying
Background

- Youth violence:
  - US Statistics
  - European Statistics

- Indicators:
  - Physical fighting and weapon carrying
  - Highly correlated behaviors
We started with a simple concept
Next, recognized the need for theory
  Development in context:
    
    * Do violent risk behaviours have cumulative effects on adolescent health?
    * Do risks interact with different contexts?
Possible Health Outcomes

- **Medically treated injuries:**
  - Sentinel physical outcome

- **Emotional health:**
  - Sentinel psychological outcome
Hypotheses

- Weapon carrying and physical fighting have health effects
- Existence of high risk group:
  - Youth engaged in both forms of violence
  - Interactive effects
    - Within time - multiplicative
    - By geography
Sample

- 20,125 adolescents
  - 11-15 years old
- 5 countries:
  - Belgium, Israel, USA, Canada, Macedonia
  - N of 2492 to 5746
  - Even gender split
Measures: Violence

- Frequency of physical fights during past 12 months
  - 3+ Frequent
  - 1-2 Infrequent
  - 0 None

- Weapon carrying in past 30 days
  - Ever
  - Never
Statistical analysis

- Prevalence estimates by gender
- Logistic regression
  - Students nested within schools
  - Multi-level approach - clustering
  - Bivariate and adjusted models
## Demographics

<table>
<thead>
<tr>
<th></th>
<th>Bel</th>
<th>Can</th>
<th>Isr</th>
<th>Mac</th>
<th>USA</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>2492</td>
<td>5746</td>
<td>4235</td>
<td>5086</td>
<td>2566</td>
<td>20125</td>
</tr>
<tr>
<td>Male %</td>
<td>52</td>
<td>47</td>
<td>39</td>
<td>50</td>
<td>47</td>
<td>47</td>
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<tr>
<td>Mean Age</td>
<td>14.5</td>
<td>13.8</td>
<td>14.1</td>
<td>13.6</td>
<td>14.4</td>
<td>14.0</td>
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</table>
## Physical Fighting

<table>
<thead>
<tr>
<th>Boys</th>
<th>Percentage</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrequent</td>
<td>Min (USA)</td>
<td>Max (Belgium-Fr)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>33</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>Frequent</td>
<td>13</td>
<td>26</td>
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</table>
## Physical Fighting

<table>
<thead>
<tr>
<th>Girls</th>
<th>Percentage</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Min (Israel)</td>
<td>Max (USA)</td>
</tr>
<tr>
<td>Infrequent</td>
<td>12</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Frequent</td>
<td>3</td>
<td>13</td>
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</table>
# Weapon Carrying

<table>
<thead>
<tr>
<th></th>
<th>Min (Belgium-Fr)</th>
<th>Max (USA)</th>
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</thead>
<tbody>
<tr>
<td>Boys</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>Girls</td>
<td>2</td>
<td>7</td>
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</table>
Both Violence Indicators

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>5</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Girls</td>
<td>1</td>
<td>2</td>
<td>8</td>
</tr>
</tbody>
</table>
Violence and Injury
Canadian Boys

Odds Ratio

Weapons Fighting

- -  -  -  +  +  +  ++

0
0.5
1
1.5
2
2.5
Violence and Injury
Israeli Boys

Weapons Fighting

- -
- +
- ++
+ -
+ +
+ +
+ ++
Violence and Emotional Problems: Canadian Boys

Odds Ratio

Weapons Fighting

- - 
- - 
- ++ 
+ - 
+ + 
+ + 
+ ++ 

Odds Ratio

0 0.5 1 1.5 2 2.5 3 3.5 4 4.5
Violence and Emotional Problems: Israeli Boys

Odds Ratio

Weapons Fighting

- -  - +  - ++  + -  + +  + ++
Violence and Injury
Canadian Girls

Odds Ratio

Weapons Fighting

- -
- +
- ++
+ -
+ +
+ +
+ ++
Violence and Injury
Israeli Girls

Odds Ratio

Weapons Fighting

-  -  -  +  ++  +  +  ++
Violence and Emotional Problems: Canadian Girls

Odds Ratio

<table>
<thead>
<tr>
<th>Weapons Fighting</th>
<th>-</th>
<th>-</th>
<th>+</th>
<th>++</th>
<th>+</th>
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</table>
Violence and Emotional Problems: Israeli Girls

Odds Ratio

Weapons Fighting
- - - - + + +

 Fighting
Major points

- violence is common
  - normative behavior in some cultures
- many forms captured by HBSC
- potential determinant of health
Major points

- Significant gender differences
  - boys more involved in violence
  - girls report more emotional symptoms

- Both forms of violence related to injuries and emotional health symptoms
Combinations of indicators

- Small group involved in both physical fighting and weapon carrying
  - (5.2-8.3% boys; 0.6-2.2% girls)
- No consistent interactive pattern
  - Multiplicative risks not observed
  - Combination can even be protective
Limitations

- Cross-sectional analysis
- Limited ability to understand cultural context behind differences
  - Definitional issues
  - Reasons for violence
Strengths

- Large scale cross-country survey
- Emphasizes relationship between violence and health outcomes
- Places violence within a theoretical framework
Going back to theory

- It is clear that violent risk behaviours cluster together
- Risks of violence are not necessarily additive or multiplicative within time
- Risk does appear to interact with context (country)
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Thank you