What are the cyclists’ safety behaviours?

A survey of 900 cyclists, in France (sports, commuting and children)

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Context

• Bicycle use is increasing in some cities in France
• Helmet: a current issue
  – in France: highly recommended
• reflective jacket: new usage?
Aim: Cyclists’ safety behaviours

- riding behaviours
- use of helmet
- conspicuity (being highly visible)

By type of cyclists:
- children (0-10 years old)
- teens and adults: sports / leisure / commuting
Method: a survey of cyclists

Getting in touch with them:

- children: via schools
- adults: via sports and bike shops, cycling sports clubs, (urban) cycling organisations, cycling events, ...

Conducted in Sept-Oct 2008, in Lyon and surroundings
Data

by type of cyclists:
• children (0-10 years old): 234
• teens and adults:
  – leisure cyclists: 44
  – sports cyclists: 216
  – commuting cyclists: 448
Riding style: indicating change of directions

Sports cyclists (n=216)
- Always: 60%
- Often: 18%
- Sometimes: 16%
- Never: 4%
- NR: 2%

Commuting cyclists (n=448)
- Always: 45%
- Often: 32%
- Sometimes: 18%
- Never: 4%
- NR: 1%
Riding attitude: feeling vulnerable?

Commuting cyclists

not at all 20%
very much 29%
somewhat 36%
slightly 15%

Sports cyclists (n=216)

not at all 11%
very much 43%
somewhat 32%
slightly 14%
Wearing a helmet

Children (n=234)

- Never: 9%
- Always: 50%
- Depends on…: 41%
Wearing a helmet

Commuting cyclists (n=448)
- Never: 47%
- Depends on…: 35%
- Always: 17%

Sports cyclists (n=216)
- Always: 68%
- Never: 4%
- Depends on…: 27%
Helmet: positive/ negative image?

for commuting cyclists:

helmet = looks ugly, unpleasant to wear, and cumbersome
47% of commuting cyclists never wear of helmet: who is most reluctant? (1/3)

outcome=never wears a helmet; multivariate modified poisson regression

<table>
<thead>
<tr>
<th>Cycling area</th>
<th>RR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Town</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 to + and countryside=++</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td><strong>Town</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>++ and countryside= 0 to +</td>
<td><strong>8.01</strong></td>
<td>2.36 27.20</td>
</tr>
<tr>
<td>Town=countryside</td>
<td><strong>3.75</strong></td>
<td>1.07 13.13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Drives a car</th>
<th>Never</th>
<th>1.56</th>
<th>1.15 2.11</th>
</tr>
</thead>
<tbody>
<tr>
<td>A few times per year</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-3 per month</td>
<td>1.20</td>
<td>0.93 1.56</td>
<td></td>
</tr>
<tr>
<td>1-3 per week</td>
<td>1.30</td>
<td>0.96 1.76</td>
<td></td>
</tr>
</tbody>
</table>

cont’d
### Commuting cyclists: who is most reluctant? (3/3)

<table>
<thead>
<tr>
<th>Outcome</th>
<th>RR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>1.26</td>
<td>1.06</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-19 years old</td>
<td>1.32</td>
<td>0.77</td>
</tr>
<tr>
<td>20-34</td>
<td>0.99</td>
<td>0.74</td>
</tr>
<tr>
<td>35-54</td>
<td>1.06</td>
<td>0.77</td>
</tr>
<tr>
<td>55+</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Job status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Unemployed, at home, retired</td>
<td>1.35</td>
<td>1.05</td>
</tr>
<tr>
<td>Students</td>
<td>0.87</td>
<td>0.64</td>
</tr>
</tbody>
</table>

Outcome: never wears a helmet; multivariate modified poisson regression.
Commuting cyclists: who is most reluctant? (3/3)

outcome=never wears a helmet; multivariate modified poisson regression

<table>
<thead>
<tr>
<th></th>
<th>RR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeling fragile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1.32</td>
<td>1.10</td>
</tr>
<tr>
<td>No opinion</td>
<td>1.55</td>
<td>1.17</td>
</tr>
<tr>
<td>« helmet=cumbersome after parking the bike »</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>2.69</td>
<td>1.64</td>
</tr>
<tr>
<td>No opinion</td>
<td>2.31</td>
<td>1.33</td>
</tr>
</tbody>
</table>
Conspicuity (=being highly visible)

- at night
- at day

NB: the « Taupo » study
Use of rear light at night

Commuting cyclists (n=393)
- Never: 10%
- Often: 13%
- Always: 64%
- NR: 5%
- Sometimes: 8%

Sports cyclists (n=86)
- Never: 23%
- Often: 3%
- Always: 58%
- NR: 5%

Even though it is mandatory, we do not reach a 100% use
## Reasons for non-use of light at night

<table>
<thead>
<tr>
<th>Reason</th>
<th>Commuting cyclists</th>
<th>Sports cyclists</th>
</tr>
</thead>
<tbody>
<tr>
<td>« It does not work (anymore) »</td>
<td>40.9%</td>
<td>14.6%</td>
</tr>
<tr>
<td>« I forget to take it with me / to put it on »</td>
<td>22.8%</td>
<td>20.8%</td>
</tr>
<tr>
<td>« I lost it / it was stolen »</td>
<td>7.6%</td>
<td>4.2%</td>
</tr>
<tr>
<td>« I find it unnecessary when there is city light »</td>
<td>14.6%</td>
<td>8.3%</td>
</tr>
<tr>
<td>« lamp / batteries are too expensive »</td>
<td>1.8%</td>
<td>6.3%</td>
</tr>
<tr>
<td>« other reason »</td>
<td>19.9%</td>
<td>33.3%</td>
</tr>
<tr>
<td>Total frequency</td>
<td>n=171</td>
<td>n=48</td>
</tr>
</tbody>
</table>
Use of reflective yellow jacket?

• in France: mandatory in cars since July 2008
• huge campaign

It is
• highly available
• cheap
• not cumbersome
Use of reflective jacket at night

Sports cyclists (n=86)

- Never: 47%
- Always: 23%
- Often: 3%
- Sometimes: 7%
- NR: 20%

Commuting cyclists (n=39)

- Never: 56%
- Always: 18%
- Often: 10%
- Sometimes: 9%
- NR: 7%

The use of the reflective jacket is non-negligible
Use of reflective jacket during day

Commuting cyclists (n=448)
- Never: 76%
- Often: 6%
- Always: 4%
- Sometimes: 13%
- NR: 1%

Sports cyclists (n=216)
- Never: 77%
- Sometimes: 10%
- Often: 3%
- Always: 3%
- NR: 7%
Wearing of bright colour clothes during day

Commuting cyclists (n=448)
- Never: 48%
- Often: 16%
- Always: 9%
- Sometimes: 26%
- NR: 1%

Sports cyclists (n=216)
- Never: 17%
- Always: 49%
- Often: 21%
- Sometimes: 13%

Commuting cyclists do not seem aware of this aspect
Conclusion (1/2)

• type of cyclists appears relevant: different behaviours and attitudes

• to be taken into account into prevention campaigns
Conclusion (2/2)

Prevention:
• Commuting cyclists should be put forward

For these cyclists:
• The image of the helmet should be improved
• Conspicuity should not be forgotten
additional slides
Helmet: cumbersome after parking the bicycle?

Sports cyclists
- Fully agree: 6%
- Agree: 16%
- No opinion: 21%
- Disagree: 25%
- Fully disagree: 32%

Commuting cyclists
- Fully agree: 35%
- Agree: 32%
- No opinion: 21%
- Disagree: 13%
- Fully disagree: 9%
Helmet: makes you look ugly?

Sports cyclists
- Fully agree: 4%
- Agree: 9%
- Disagree: 16%
- Fully disagree: 44%
- No opinion: 27%

Commuting cyclists
- Fully agree: 14%
- Agree: 19%
- Disagree: 15%
- Fully disagree: 18%
- No opinion: 34%
Wearing a helmet: unpleasant?

Commuting cyclists

- Fully agree: 24%
- Agree: 17%
- No opinion: 17%
- Disagree: 20%
- Fully disagree: 14%

Sports cyclists

- Fully disagree: 41%
- Agree: 19%
- No opinion: 17%
- Disagree: 20%
- Fully agree: 3%

agree: 32%