Swedish Skiers Knowledge, Experience and Attitudes Towards Off-Piste Skiing and Avalanches

A study aiming to understand the profile of a Swedish Avalanche Victim.
ISSW 2013, S. Mårtensson, P-O Wikberg, P. Palmgren 2013
Organizations within the Swedish Mountain Safety Council

Fjälledareföreningen SFU
Swedish Skiers Knowledge, Experience and Attitudes Towards Off-Piste Skiing and Avalanches

Background

• The winter 2012/2013 was one of the most accident-prone seasons in the Swedish avalanche history

• A total of seven dead Swedes - five in the Alps, one in Norway and one in Sweden

• The winter of 2012/2013 is following a trend, with an increasing number of Swedes who are killed in avalanches

• Another trend is that the majority of Swedes are killed abroad; in a sense Sweden is *exporting* avalanche victims
Swedish Skiers Knowledge, Experience and Attitudes Towards Off-Piste Skiing and Avalanches

Background

Number of Dead Swedes in Avalanches 2000-2013
Swedish Skiers Knowledge, Experience and Attitudes Towards Off-Piste Skiing and Avalanches

Background

Location for Swedish Avalanche Fatalities 2000-2013

- 18% in Sweden
- 82% in Other country
Swedish Skiers Knowledge, Experience and Attitudes Towards Off-Piste Skiing and Avalanches

Questions

• Are Swedes worse educated, less experienced, or do they not use enough safety equipment?

• Do the Swedes take greater risks than other nationalities?

• In short, who are the people behind the statistics?
Aim of the Survey

- Describe the Swedish skiers knowledge, experience and attitudes towards off-piste skiing and avalanches
Swedish Skiers Knowledge, Experience and Attitudes Towards Off-Piste Skiing and Avalanches

Web Survey

• In April 2013 we conducted a web-based survey at the largest Swedish website and forum for skiers (www.freeride.se)

• Freeride was founded in 1998 and is today, with its 300,000 unique visitors each month of the season, and it’s 100,000 members it is Scandinavia’s largest ski/freeride social media forum
Swedish Skiers Knowledge, Experience and Attitudes Towards Off-Piste Skiing and Avalanches
Web Survey

- Respondents were asked to answer a total of 28 questions
- 1,127 respondents participated
- The respondents chose one of four main groups:
  a) piste
  b) park
  c) lift assisted off-piste
  d) ski touring
Web Survey

• Of the total 1,127 respondents, 1,047 (93 %) answered that they are essentially;
  a) lift assisted off-piste skiers
  b) ski touring skiers

• These 1047 we consolidated into one group, Swedish off-piste skiers, and we then analysed them in more detail
Validity

• Does the survey describe the Swedish people who have been or will be killed in avalanches?

• We compared the statistical information for all dead Swedish avalanche victims between 2001 and 2013 with the corresponding data from the survey
Validity

Age Distribution

Survey responses (n=1047)  Fatalities 2001-2013 (n=28)

11-20 yrs: 7% (Survey), 11% (Fatalities)
21-30 yrs: 50% (Survey), 43% (Fatalities)
31-40 yrs: 27% (Survey), 25% (Fatalities)
41-50 yrs: 13% (Survey), 18% (Fatalities)
51-60 yrs: 4% (Survey), 4% (Fatalities)
Swedish Skiers Knowledge, Experience and Attitudes Towards Off-Piste Skiing and Avalanches

Validity

Gender Distribution

Survey responses (n=1047) Fatalities 2001-2013 (n=28)

Men Women

- 86% 86%
- 14% 14%
Swedish Skiers Knowledge, Experience and Attitudes Towards Off-Piste Skiing and Avalanches

Validity

Location of Skiing

Survey responses (n=1047) vs. Fatalities 2001-2013 (n=28)

- Sweden only: 23% vs. 18%
- Other country: 77% vs. 82%
Swedish Skiers Knowledge, Experience and Attitudes Towards Off-Piste Skiing and Avalanches

Use of Avalanche Safety Equipment

Possession of avalanche equipment

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Possession</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helmet</td>
<td>94%</td>
</tr>
<tr>
<td>Transceiver</td>
<td>89%</td>
</tr>
<tr>
<td>Probe</td>
<td>89%</td>
</tr>
<tr>
<td>Shovel</td>
<td>91%</td>
</tr>
<tr>
<td>Airbag</td>
<td>20%</td>
</tr>
</tbody>
</table>
Swedish Skiers Knowledge, Experience and Attitudes Towards Off-Piste Skiing and Avalanches

Use of Avalanche Safety Equipment

- 62% have it always on
- 25% use it when it is snowing or when there is a higher avalanche danger
- i.e. 87% use their equipment regularly
- 62% practises every year or more
- But more than 30% does not train regularly
Avalanche Knowledge and Awareness

- 81% believe their *own* knowledge to be good
- 78% believe their *friends* knowledge to be good
- 54%, have passed a formal avalanche course
- 77% could give an accurate description of the meaning of the level "Considerable" in the International Avalanche Danger Scale.
Swedish Skiers Knowledge, Experience and Attitudes Towards Off-Piste Skiing and Avalanches

General Skiing and Mountain Experience

Number of skiing days per year

- 0-7: 7%
- 8-14: 17%
- 15-21: 19%
- 22-28: 14%
- 29-60: 22%
- 60+: 20%
General Skiing and Mountain Experience

- 76% are skiing more than two weeks per year
- 92% have been skiing for more than 10 years
Swedish Skiers Knowledge, Experience and Attitudes Towards Off-Piste Skiing and Avalanches

Accidents and Incidents

Experience of avalanche accidents

- Caught and buried: 2%
- Caught but not buried: 34%
- No accidents: 64%
Accidents and Incidents

- 36% have been caught in an avalanche
- 62% have friends who have been caught
Risk-taking and Behaviour

Do you ski more or less off-piste compared to three years ago?

- Much more often: 28%
- Slightly more often: 30%
- As often: 25%
- More rarely: 7%
- Much more rarely: 4%
- Don't do BC skiing: 6%
Risk-taking and Behaviour

- 83% ski, as much, or even more outside the ski areas
- 46% answered that recent avalanche accidents don’t affect them and they are thinking and doing in the same way as before
- 74% were prepared to take risks for good off-piste skiing
Conclusions

Aim of the Survey

• Describe the Swedish skiers knowledge, experience and attitudes towards off-piste skiing and avalanches
Swedish Skiers Knowledge, Experience and Attitudes Towards Off-Piste Skiing and Avalanches

- The results show that Swedish offpist skiers are...
- Well Equipped
- Rather often trains with avalanche rescue tools equipment
- Good Avalanche Education
- Seasoned Skier
- Aims for the Off-Piste
- Been Caught by an Avalanche
- No Change of Behaviour Despite Experiences
- But Still Willing to Take Risks
Swedish Skiers Knowledge, Experience and Attitudes Towards Off-Piste Skiing and Avalanches
DISCUSSION

• Have we just shown that skiers actually are aware of the danger of avalanches, but they still want to ski off-piste anyway?

• Have we just shown that human factors affect behaviour?

Or are there more dimensions?

• Can it be that there are explanations to be found in the Swedish avalanche context. Education and communication is maybe missing important pieces

• New and important questions to be answered..
Swedish Skiers Knowledge, Experience and Attitudes Towards Off-Piste Skiing and Avalanches

- Do we see really the forest for the trees?
- They know it's dangerous
- They will still continue to ski off-piste
- What can we do to prevent and see the ongoing trend to decrease?
- How can we give them better tools?
- ...and how does this trend and behaviour affect mountain rescue in our and other countries?
THANKS FOR YOUR ATTENTION!

Per-Olov Wikberg

Swedish Environmental Protection Agency, Sweden
Swedish Mountain Safety Council
Swedish Skiers Knowledge, Experience and Attitudes Towards Off-Piste Skiing and Avalanches

Avalanche nowcast/forecast information in Sweden
Swedish Skiers Knowledge, Experience and Attitudes Towards Off-Piste Skiing and Avalanches

ATES – Avalanche Terrain Exposure Scale (2013- )
Avalanche education in Sweden

Swedish Avalanche Courses Winter 2012/2013:

- Avalanche 0 (4 hours)
- Avalanche 1 (3 days)
- Avalanche 2 (6 days)
- (Avalanche 3 = CAA ITP Level 2)
- Avalanche Rescue 1 (1 day)
- Avalanche Rescue 2 (3 days)
- Avalanche Blasting (3 days)
- Avalanche Instructor (3 days)
Swedish Skiers Knowledge, Experience and Attitudes Towards Off-Piste Skiing and Avalanches

Swedish Avalanche Courses 1994-2010, numbers of students

- Lavin 1 (3 dagar)
- Lavin 2 (6 dagar)