

Summary

Snowmobile use in Norway. Behaviour, attitudes, accidents and risk

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Authors: Torkel Bjørnskau, Alice Ciccone

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In Norway, young people are more prone to snowmobile accidents and injuries than older users. This is often the result of risky activities like driving in loose snow, hill climbing, performing jumps, etc. Such behavior, however, is not very common. In general, snowmobiles are used for various recreational activities such as day trips, ice fishing, transport to camps and cottages and in connection with cabin service, ski resorts, driving of wood and reindeer husbandry. The snowmobile season lasts from November to May, with a peak in March. Snowmobile owners believe that restrictions on use are too strict in Norway, and recognize that some illegal driving occurs.

Ownership and use of snowmobiles in Norway

There are about 85,000 snowmobiles in Norway. Of the 4,600 snowmobile owners who participated in the survey, 93 % were men, and the average age of the respondents was 50 years. In our sample, utility snowmobiles and sport trail snowmobiles were the most common. There is a very clear connection between the age of owner and the type of snowmobile owned. The youngest owners often drive mountain snowmobiles, whereas those over 45 years, most often use utility snowmobiles. Young owners also have newer and more powerful snowmobiles than older owners.

Most people in this sample use snowmobiles for leisure activities such as day trips with friends and family, and private transport to and from camps and cottages. Among those who use snowmobiles commercially, there are many service assignments for cabins and ski resorts, the making of ski tracks, as well as hunting and fishing. The snowmobile season lasts from November to May, with a peak in March. Most owners use their snowmobile 1–3 days per week during the season, and cover an average mileage of 790 km per year. In Svalbard and Finnmark, the average annual mileage is higher at 2,500 km and 1,200 km, respectively.

Many think there are too many restrictions

Among the sampled respondents, many think there should be more scooter trails and separate areas where it is allowed to drive freely (as in Sweden and in Svalbard). A clear majority also believes that there will be less illegal driving if there were more scooter trails. Many say that they drive primarily or exclusively in Sweden, and refer to Sweden as a good example of how snowmobile driving should be regulated. Many compare snowmobiles to leisure boats and say it is unreasonable to have so many restrictions on snowmobile driving while there are practically no restrictions on operating leisure boats.

A number of respondents state that they drive illegally because it is cumbersome or difficult to comply with all the rules. For example, some say that it is challenging to get to/from the trail network legally, and that in some cases the trails involve major detours, making it tempting to take an illegal shortcut. Many also believe that municipal authorities

are too restrictive in granting exemptions from the regulations. Especially in Finnmark there are respondents who say that the many snowmobile restrictions destroy established traditions for fishing and harvesting from the nature.

Helmets, goggles and snowmobile suits are common

There is a general requirement to use a helmet when driving snowmobiles in Norway, and a large majority in the sample says that they always wear helmets (67 %). There are, however, some who say they rarely or never use a helmet (12 %). Scooter goggles and snowmobile suits are used by most respondents, whereas few use protective vests.

Avalanche beacons and avalanche probes are also uncommon among the snowmobile owners who responded to the survey; four out of five say that they never have such equipment when riding. It probably reflects the fact that there are few driving in avalanche terrain.

Speed and risky behaviour

Although there are many who drive outside the legal trail network, a significant number of them have a special permission for such driving from the municipality. In terms of speed, the overall speed limit is 70 km/h. About one in four snowmobile riders say that they sometimes or often drive faster than this. Far fewer drive faster than the speed limit while towing a sledge (60 km/h). Almost none of the respondents reported that they drive after drinking alcohol. The proportion here is much lower than among drivers of leisure boats and among cyclists.

Snowmobile owners were also asked about different types of risky behavior like doing wheelies, racing, jumping with the snowmobile and riding on steep mountainsides (hill climbing). Such risky behaviour is generally not common; only one in ten say they do this occasionally or more often. However, this is far more common among youths. Among those under the age of 25, six out of ten say that they do this occasionally or more often.

Accidents and injuries

In total, 583 (13 %) of the snowmobile users reported that they had had one or more accidents with snowmobiles during the period 2011–2016. In the questionnaire accidents were defined as events that had caused material damage or personal injury. The greatest number of accidents, approximately 30 % of the total, occurred during the month of March. The majority of the accidents occurred on and off the trail network, and the most common types of accidents involved hitting a rock or other item, or rolling over. The most common reason for the accident is bad sight.

Very few accidents were collisions (3 %), and most accidents were not reported to insurance providers (77 %) or police (96 %). Utility snowmobiles and sport trail snowmobiles are the most commonly used types and they are involved in a majority of accidents, each constituting 32 % of the total. Mountain snowmobiles, however, are overrepresented in accidents; they account for 23 % of the snowmobiles involved in accidents and make up 18 % of the sample.

Of those who had an accident, one in five were physically injured. Of these, about half needed medical attention due to the injury. Although injuries to arms and hands were the most common type, in general, injuries were quite evenly distributed among different body parts. 7 % report that they have or will suffer permanent physical ailments due to the accident. Another 14 % say they do not know if they will suffer permanent physical ailments.

Risk and risk factors

Based on the specified mileages and self-reported injuries (medically treated), we have calculated a risk of personal injury for snowmobile drivers of 3.6 per million person kilometers. This is much higher than for passenger cars (0.14), leisure boat (0.21) and motorcycle (1.04), but lower than for bicycles (7.97). The numbers are uncertain and they cover large variations between age groups. Among drivers of snowmobiles and motorcycles, young users have a much higher risk than other groups. The risk figure for snowmobiles here is, therefore, highly affected by the age composition of the sample.

We have conducted a set of regression analyses to identify the most important risk factors in this sample. Risk factors are conditions that increase the likelihood of accident or injury.

As expected, we generally find that increased use is associated with a greater number of accident and personal injury. The results also show that mountain snowmobiles are much more prone to accidents and injuries than other types of snowmobiles. This effect, however, is largely due to the fact that young riders are overrepresented in such situations. There is a very clear effect of age – the youngest riders are much more prone to accidents and injuries than older snowmobile users. The reason is that young riders drive in more risky ways – higher speed, more often in loose snow, steep terrain, etc. It is this type of behaviour that contributes to the increased risk among youths, not age in itself.

The results revealing that speed and risky behaviour increase the likelihood of accident and injury are not surprising and are consistent with previous Norwegian and foreign studies. However, unlike many other studies, we generally find that alcohol and driving under the influence (DUI) seem to be a small problem among snowmobile drivers in Norway.

Need for more knowledge

The present survey is the most comprehensive that has been conducted so far in the use of snowmobiles in Norway. We have mapped usage, attitudes and accidents, and found clear connections between the characteristics of snowmobiles and their owner, and accidents and personal injuries. The relationships are very clear and it is obvious that there are very big differences in how snowmobiles are used and the risks involved.

The youngest users, for whom the snowmobile is largely a toy, are most at risk of accident and injury. Much of this risky driving is illegal, and not common among snowmobile users, in general. There are, however, many older snowmobile users who report that they drive illegally, for example, to come to and from the trail network.

There is currently no systematic registration of snowmobile accidents and injuries in Norway, nor about snowmobile use. This survey indicates that snowmobile driving, in general, is not particularly risky as compared with other activities, but we must be aware that the results are based on what the snowmobile owners themselves reported in terms of

use and accident. Recreational driving and play with snowmobiles seems to be on the rise, which is likely to cause more accidents and injuries.

A more systematic registration of snowmobile use and accidents will provide a better basis for assessing how dangerous the activity is and how well the current regulations work. In this context, it could be interesting to carry out a comparative study of the use and risk of snowmobile driving in Norway, Sweden and Finland.