

**Summary:**

## **Cycle accidents among teenagers**

New traffic regulations were introduced in Norway on May 1, 1998. The new regulations primarily concerned the bicycle and cyclists were now obliged to give way to others when leaving the sidewalk. In addition some minor changes in the text concerning cycling on the sidewalk were made.

The Norwegian road authorities launched a campaign to inform cyclists and car drivers of the new rules. In order to evaluate the campaign a questionnaire was distributed to school pupils in junior high schools and high schools in 16 of the 19 counties in Norway. A total of 5619 pupils answered the questionnaire. In addition to questions regarding knowledge of the traffic rules and the campaign, there were questions concerning cycling and accidents and questions concerning lifestyle, sensation seeking etc.

The results show that knowledge of traffic rules does not contribute to reduce the accident risk, or injury risk of young cyclists. However, road user behaviour contributes significantly to accident and injury risk. Running red lights and cycling in the wrong direction in one-way traffic increase accident and injury risk. Using cycle paths and using reflecting materials when cycling in dark, reduces accident and injury risk.

In addition to these behavioural factors, other factors that increase the risk of accident and injury are lifestyle factors such as smoking and being allowed to be out late etc. and sensation seeking measured by two questions of bungee jumping. In addition, teen-agers that are active in sports are more at risk than those who are not active, contrary to what was expected.

One especially interesting result is that cyclists who say they always go off the cycle when crossing the street at pedestrian crossings, are significantly more at risk than those who do so more seldom. The reason for this seems to be that some cyclists have had accidents in such situations, which in turn have made them more cautious in these situations. One side effect of the change of the traffic rules may have been that car drivers have become more conscious of their right of way, giving rise to more collisions between cars and cycles when cyclists leave the pavements, for example at pedestrian crossings. Census data from Statistics Norway show a significant increase in injuries from cycle accidents in such situations after the change of the rules.

The results show that knowledge of the traffic rules generally does not have much importance for accident and injury risk of young cyclists. Cyclists notoriously break the traffic rules. To increase the number of situations when they are obliged to give way may give rise to more accidents when car drivers are informed of the changes and become conscious that they have the right of way in these situations.