Am I more conspicuous with a yellow Plexiglas disc in front of the headlight? A study of motorcyclists' conspicuousness in road traffic.

Approximately half of the accidents where motorcyclists are killed or injured occur when interacting with other vehicle-users. These accidents are typically intersection, head-on or rear-end collisions. A contributing factor to these collisions can be the difficulties that other road users have in detecting the motorcyclists and thereby correctly deducing their position and speed. All motorised vehicles in Sweden have a mandatory daylight running lights (DRL) requirement. The main purpose of this project was to examine possibilities of increasing the conspicuity of motorcyclists by using a yellow Plexiglas disc or sheet (yellow glass) placed in front of the motorcycle’s headlight.

The results from the field and laboratory studies suggest that the maximum amount of conspicuity is achieved when yellow and white light are combined; one with yellow and one without. The results from the interview and questionnaire studies show that the motorcyclists that drive with the yellow glass, perceive that their own conspicuity had increased. They believe that they are detected by other road users earlier and more easily especially in certain traffic environments and ambient lighting/weather conditions. This had also contributed to an increased sense of security by the yellow glass group.

Am I more conspicuous with yellow glass? The results from this project suggest that the answer is yes, in certain circumstances. This must however, be qualified by the limitations of the studies in this project where all traffic situations, weather conditions and lighting conditions have not been assessed.

The project comprised four studies viz. 1) a field study, 2) a laboratory study, 3) an interview study and 4) a questionnaire study. The purpose of study 1 was to measure the search-conspicuity-effect of motorcycles with yellow glass in a field study. The purpose of study 2 was to measure the attention-conspicuity-effect of motorcycles with yellow glass in photographs in a laboratory test environment. The photographs were presented for 250 millisecond and the true purpose of the study was masked by presenting many different traffic environments and vehicle configurations. The purpose of study 3 was to interview a number of the motorcyclists that already use the yellow glass with a specific focus on their experiences of possible attention-conspicuity-effects. The purpose of study 4 was to assess whether the results from study 3 could be found in a more general population sample of yellow glass users and moreover to compare them with a general population of standard white glass motorcyclists with a number of accident-related factors.