Measuring the Impact of Bicycle Marketing Messages

By Sidsel Birk Hjuler and Thomas Krag

A picture of a cyclist wearing a helmet has a negative marketing effect on cycling and has a stronger positive marketing effect on cars than a typical car advertisement. If safety messages must be included in a campaign, focus on the potential cyclist as an individual and don't speak about the general risk of cycling. These are some of the conclusions from a project on measuring the impact of bicycle marketing messages.

Background and methodology

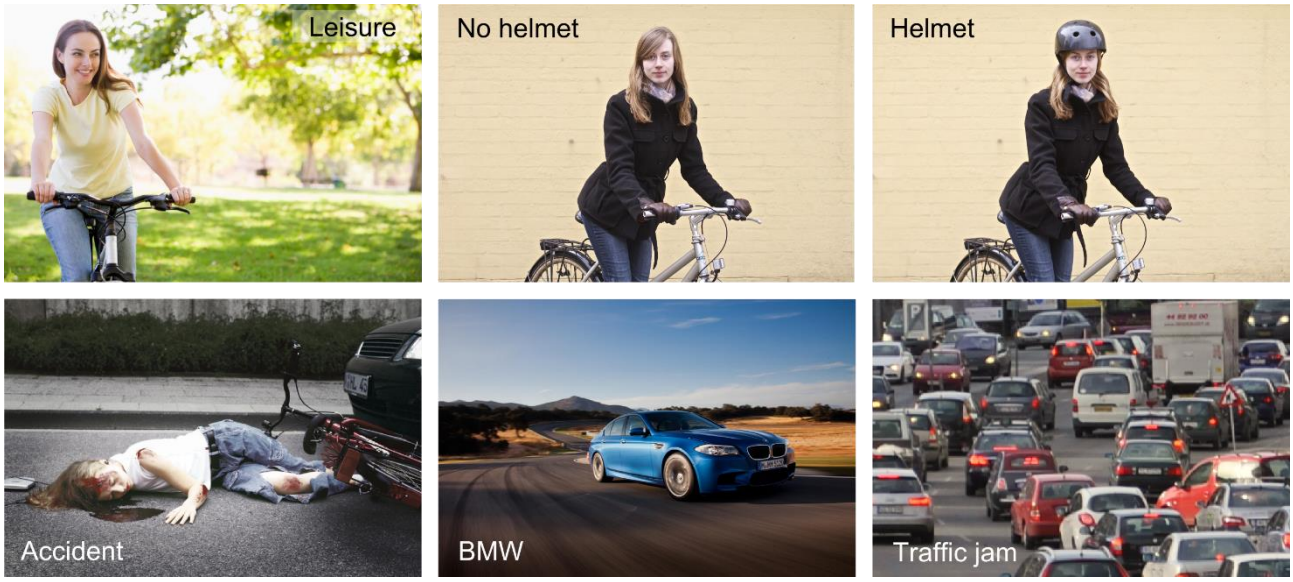
Carrying out and evaluating campaigns for behavior changes, among them campaigns for increased cycling, has become a well described discipline (Prochaska et al, 2008; P. Hyllenius et al, 2009; Merseyside LTP Support Unit, 2010).

An issue of debate is the question of to what extent such campaigns should include messages related to bicycle safety, as such messages may have an adverse effect to cycling (see for example Utility Cycling, 2013).

In principle, finding out which messages that work the best could be done by carrying out different campaigns using different messages and evaluating the campaigns afterwards to find which one may work better than the other.

In practice this would be a very time consuming and costly way to proceed. Moreover, other issues like a serious bicycle accident or an intensive car marketing campaign may attract public attention and influence the campaigns' outcome in an unpredictable way.

As an alternative approach, a survey technique was used to get insight into how different messages influence a range of opinions among the respondents. Pictures without text were used to represent the messages. Opinions were reported on VAS scales (Visual Analogue Scales) with different statements given at the end points, as suggested in the literature (see for example Wewers at al, 1990). Opinion scores and average opinion scores all fall in the interval 0 to 1 (0% to 100%), with 0 corresponding to the left VAS-scale end point and 1 corresponding to the right end point. In all cases opinions related to the four modes of transportation - bicycle, car, bus and train - were included.



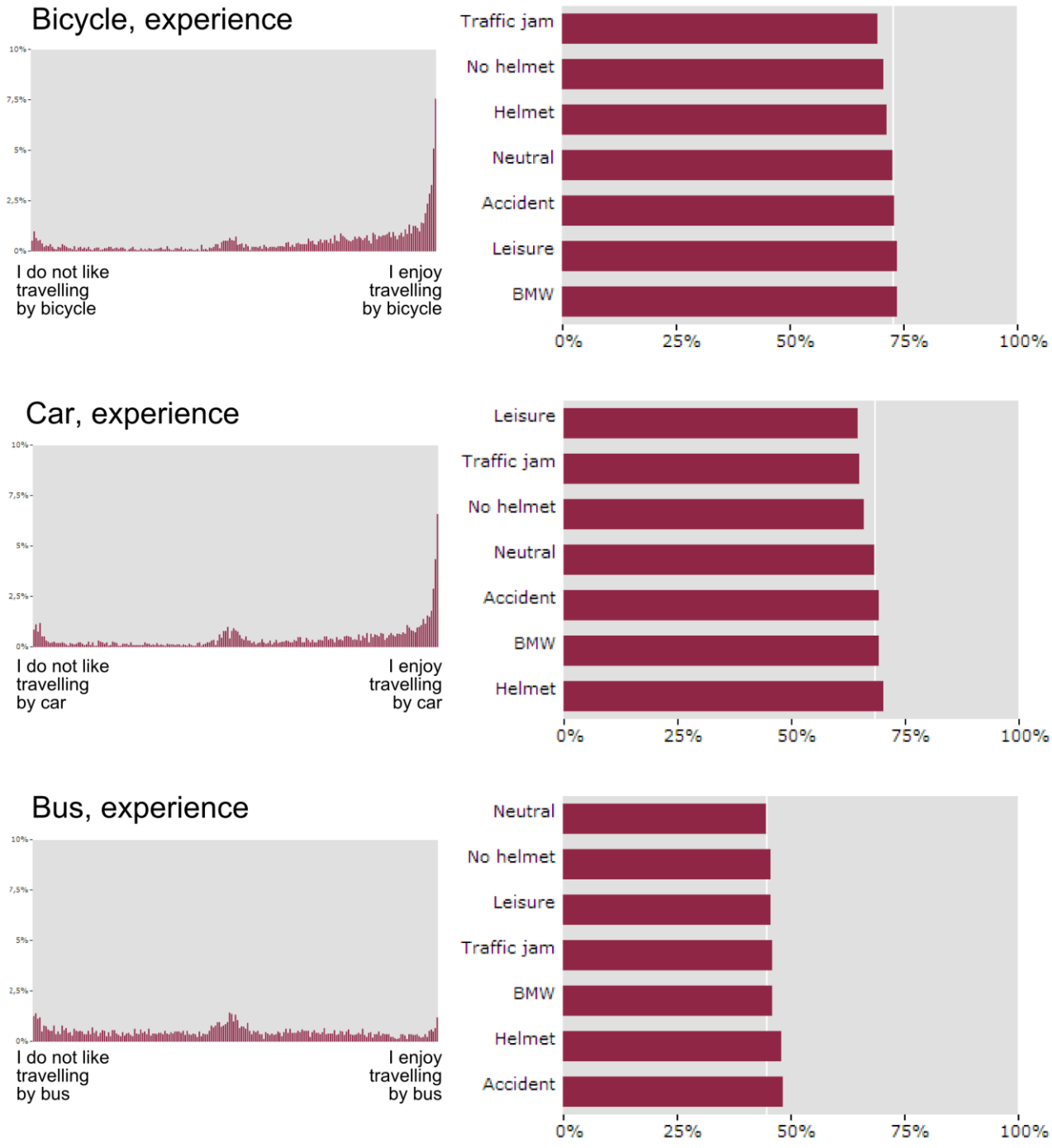
These six pictures as well as a neutral (blank) picture were used in the survey.

Six pictures were used, representing typical messages, as well as a blank picture (Neutral) included for reference purposes. The six pictures (Leisure, No helmet, Helmet, Accident BMW and Traffic jam) are shown above. Each of the respondents saw only one of the pictures, which appeared on the top and bottom of every page of the survey. A total of 3,500 responses, 500 per picture, were received and analyzed. Respondents were from Danish urban areas, delivered by Epinion (Denmark).

Results

An overall finding was that the pictures actually had an influence on the average opinion scores, and that the picture-induced differences were statistically significant (P-value of the null hypothesis was typically less than .02 for the highest and the lowest average opinion scores).

Experience



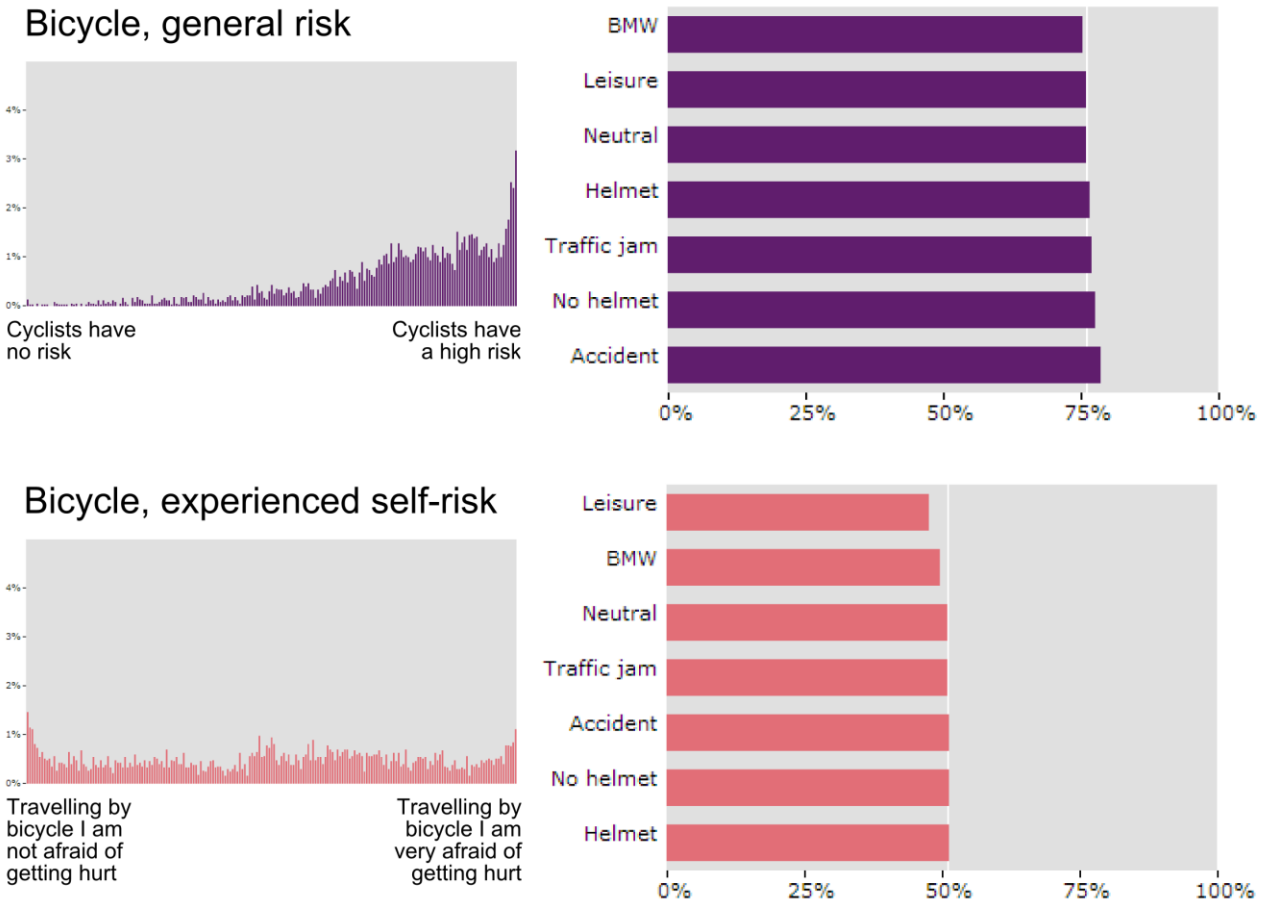
"Fingerprint" (distribution) of opinion scores on experience for bicycle, car and bus and average opinion scores versus picture for the same transportation modes. The fingerprint shows the share of respondents who have indicated a specific opinion score. A top at the right hand side of the fingerprint reflects that many respondents agree to the statement on the right end point of the VAS scale.

A central opinion when it comes to marketing is the (expected) *experience* of the various modes. End points on the VAS-scales were "I do not like travelling by …" and "I enjoy

travelling by …". The experience opinions, thus, are related to enjoyment. Bicycle and car are in this context surprisingly similar, with many high opinion scores, and cycling having the highest average opinion score of all transportation modes. For cycling, the BMW-picture (quite surprisingly) and the leisure picture (less surprisingly) gave the highest average opinion scores. The BMW-picture also had a positive impact on car experience, while – for all other modes than the bicycle – both the accident-picture and the picture of a cyclist wearing a helmet gave the highest average opinion scores. This indicates that typical safety messages (e.g. "always remember to use a helmet", "cycling is dangerous") have an adverse effect on bicycle marketing.

Notably the average opinion score for travelling by car was higher after seeing the helmet picture than after seeing the BMW picture.

Risk perception



"Fingerprint" (distribution) of opinion scores and average opinion scores versus pictures for general risk and experienced self-risk for cyclists.

While the *general risk* of cycling ("Cyclists have no risk" / "Cyclists have a high risk") has a high average opinion score, the respondents' *experienced self-risk* ("Travelling by bicycle I

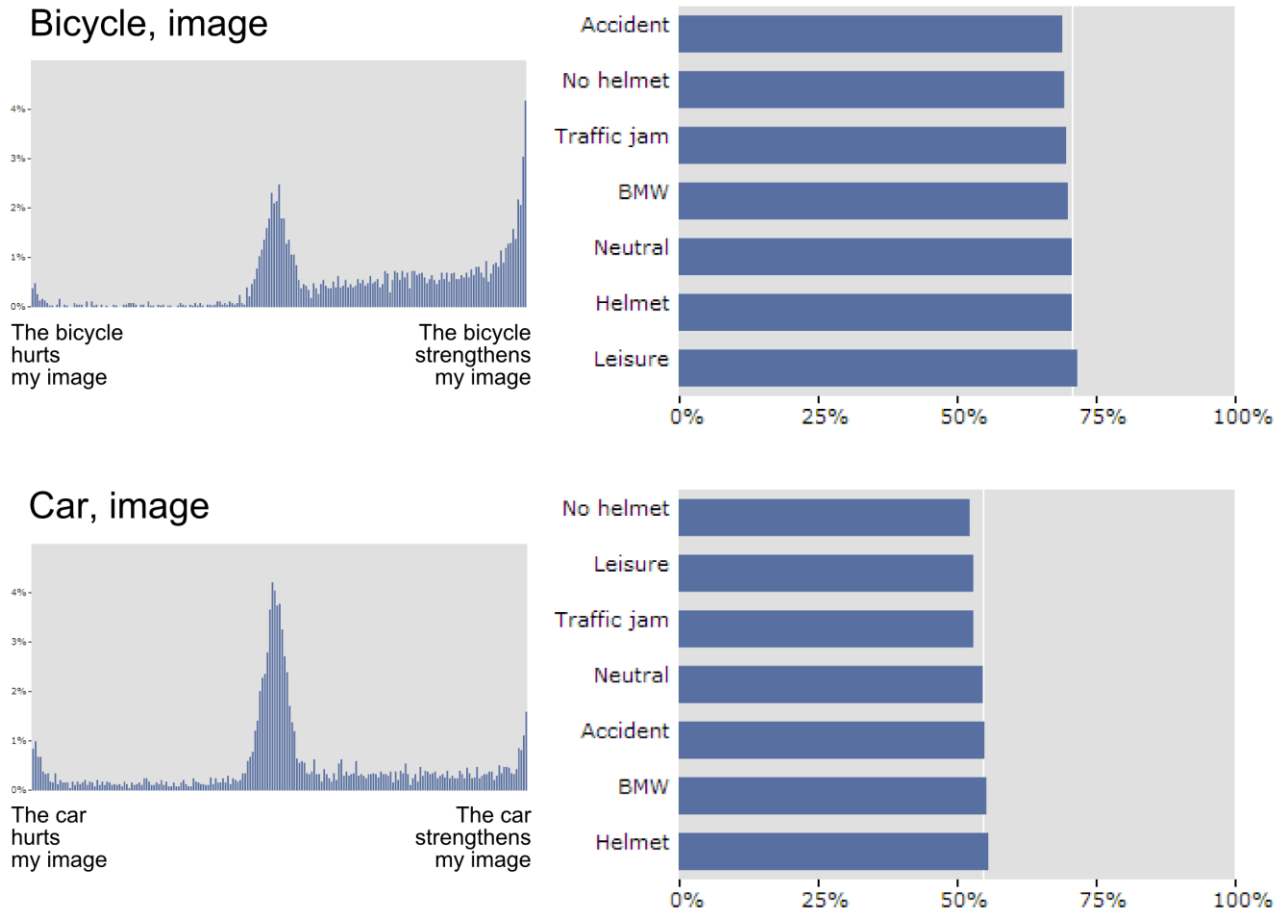
am not afraid of getting hurt" / "Travelling by bicycle I am very afraid of getting hurt") has a lower average opinion score and a totally different distribution ("fingerprint") of the scores.

As far as the general risk of cycling is concerned, the accident picture increases the average opinion score the most, while the BMW and the leisure picture lowers the score.

The pictures' influence on the self-risk is about the same, except that most pictures here give a lower score than the neutral picture.

If one's goal is to address safety issues while still wishing to promote cycling, these results indicate a good reason for focusing on the cyclist as an individual and leaving out general references to the risks of cycling.

Image



"Fingerprint" (distribution) of opinion scores and average opinion scores versus pictures for the image of bicycle and car.

Respondents were also asked about their opinion on the *appearance* of users of the various modes (whether the users looked good or not), as well as whether a given mode strengthened or hurt their own *image*. These questions are difficult, as many Danes find

image to have no relevance, and several opinion scores fell in the middle of the VAS-scales. Nevertheless, the overall outcome was clear: Cyclists are found to look better than users of other modes, and the bicycle is also the mode which strengthens the respondents' own image the most.

In contrast to what was found for experience, the helmet picture was found to be favorable to the average opinion score of appearance as well as the image of cyclists, compared to the no-helmet picture. The same tendency was found for car users. The BMW picture, on the other hand, reduced the average opinion score for cyclists' appearance and increased it for car users' appearance.

Values and bicycle helmets

Some final questions in the survey – with no possibility to go back and correct responses to previous questions – were asked on the *values* - health, comfort, well-being, freedom, control, rapidity/speed and quality of life - of the picture shown. The accident picture got very low average opinion scores, while the helmet picture got higher opinion scores than the no helmet picture on all values. This reflects a high public acceptance of bicycle helmets in Denmark. Wearing a helmet is voluntary, but wearing rates around 25% have been reported (Rådet for Sikker Trafik, 2011).

When indirectly asked, however, other tendencies are revealed. In the *appearance* and *image* opinions mentioned above, the net effect is close to zero, as opinions on car users are shifted roughly the same from helmet/no helmet pictures as the opinions on cyclists.

The opinions on experience show a clear negative net-effect on cycling from the helmet versus the no helmet picture. So even though respondents declare themselves very positive towards helmets, a picture of a cyclist wearing a helmet makes them express themselves more in favor of other modes.

Conclusions

In spite of an apparently high public acceptance of bicycle helmets in Denmark, picturing helmets has an adverse effect on bicycle marketing. The same is true for a picture of a bicycle accident. From a bicycle marketing perspective (bringing more people on bicycles) such messages should be avoided. If safety issues need to be addressed, focus on the cycling individual is preferable for general statements on the risk of cycling.

More info

More information on the project, among this a folder with results distributed at the round table presentations at Velo-city in Vienna, can be found on www.thomaskrag.com.

Picture credits

Leisure: iStockphoto, file #9116292, order no 20044837. No helmet and Helmet: Copenhagenize Consulting. Accident: ZNS – Hannelore Kohl Stiftung, Germany. BMW: BMW, Denmark. Traffic jam: Sidsel Birk Hjuler.

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