

## Seat-Belt Legislation: A Psychological Perspective

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Legislators in some 40 states will soon be debating the pros and cons of laws requiring motorists to wear seat belts. As a psychologist who has spent several years developing messages designed to motivate people to wear seat belts, I believe I have some unique insights to contribute to these debates.

Seat belts work. If used consistently by the American driving public they could save up to 9000 lives annually. Moreover, they are inexpensive. A Department of Transportation study found that mandatory seat-belt legislation was by far the most promising of some 200 possible highway safety measures in terms of expected number of lives saved and cost per fatality averted. Surveys show that most people recognize that seat belts are effective. The problem is that only about 10% of motorists use them.

My own involvement in this problem was stimulated by an article titled "The Great Seat-Belt Campaign Flop," written by safety analyst Leon Robertson. Robertson reported the results of a remarkable study in which seven carefully designed TV messages were broadcast 943 times over cable television, in prime time, to 6400 households during a period of

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nine months. The messages, several of which later won honors for excellence in advertising competitions, conveyed diverse themes. Some emphasized the disfiguring and disabling consequences of motor vehicle accidents. Others emphasized parents' responsibility to protect their children and physicians' endorsements of seat belts. The messages were not shown indiscriminately. Each was placed on or adjacent to a program likely to have an audience to which the message would most likely appeal. This equivalent of a multi-million dollar educational campaign had no discernible effect on observed seat belt use. A subsequent check of the literature on seat-belt messages showed me that several other studies had also failed to design effective messages.

Based on our own research on the psychology of protective behavior, my colleagues, Sarah Lichtenstein and Baruch Fischhoff, and I found a "flaw" in the seat-belt messages used in the various studies. They failed to emphasize the factor that our research showed to be a key motivator for protective action, namely the perceived probability of a loss. In other words, our experiments showed that people tended to protect themselves more against high-probability, low-damage accidents than against low-probability, high-damage threats. It occurred to us that people may not wear seat belts because their perceived probability of being in an accident is extremely low. A little calculation showed us that the risks of being injured in an automobile trip were indeed minuscule--about 1 in 4 million trips ends in a fatal accident and 1 in 100,000 trips produces a disabling injury. Given these statistics, it is not surprising that most motorists don't find it worthwhile to bear the (slight) costs of buckling up to protect themselves against an

overwhelmingly unlikely accident.

The problem, of course, is that we take so many automobile trips, about 50,000 in an average lifetime. Over that many trips, the probabilities add up to a risk that is not trivial. One out of every 100 persons dies in an automobile accident; one out of every three suffers a serious injury.

We reasoned that, if we could get motorists to look at the cumulative risk of driving, over a lifetime, they would recognize the probability of a serious accident as high enough to justify making a "once-and-for-all" decision to always wear a seat belt. A pilot study showed us that college students thought such a "lifetime risk message" made sense and made them more favorably inclined toward wearing seat belts.

The promising results of this test and a few additional pilot studies helped Norman Schwalm and I to convince the National Traffic Safety Administration to award us a sizable contract to develop and test psychologically based seat belt messages. We supplemented the lifetime risk message with additional messages based on themes designed to enhance one's perception of risk from driving without a seat belt. One message attempted to convey an intuitive appreciation of the tremendous physical forces involved in even moderate speed collisions. Another drew an analogy between using seat belts and other repetitive protective actions that almost everyone takes (e.g. "wearing seat belts and locking the doors to your house are similar in many respects, but whereas locks protect your property, seat belts protect your life"). A third message emphasized the virtually certain protection that seat belts afford

against some aspects of driving risks. A fourth emphasized the regret and unhappiness one might feel upon suffering an injury that could have been prevented by wearing a seat belt. Several messages combined two of these themes. Additional messages supplemented a single theme with a short message designed to combat the tendency of people to overestimate the control they have over accidents ("we underestimate the dangers that are out of our control, such as those from poor and careless - possibly drunk-drivers, sudden mechanical failures, bad weather, unsafe roads, etc.)

A total of 12 messages were produced. As a first step, we evaluated each message by examining its effect on people's concern about driving risks and their stated attitudes towards wearing seat belts. On the basis of responses from several hundred people, we selected three messages for a second round of testing. These messages were made into polished TV announcements in each of two formats (one used the road runner cartoon character, the other had the message presented by an engineer).

The messages were then viewed by several thousand people at a "screening house" dedicated to the evaluation of commercial advertisements. Viewers of a message not only answered questionnaires about it, they manipulated an "interest dial" indicating their continuous reactions throughout the time they were viewing the message. Finally, the actual seat belt use of the viewers was observed when they arrived at the site and when they departed, after seeing a seat belt message (and other commercials). The results from all six messages looked promising in terms of viewer interest and favorable attitudes

toward seat belts. The three that looked most effective (one of which was the lifetime risk theme) were selected for a final round of testing, in which study participants were repeatedly exposed to each message and their actual seat belt use was recorded. The results showed no effect of the messages on seat belt use, adding one more flop to the list of impressive failures compiled by Robertson and others.

Reluctantly, I have come to the conclusion that there is no form of educational campaign or message that will convince more than a small percentage of American motorists to voluntarily wear seat belts. Upon further reflection, I believe I understand how the special character of driving risks, involving exposure to a minute probability of accident on thousands and thousands of separate occasions, causes people to leave themselves unprotected in the face of a major threat to their safety.

People's attitudes and behaviors reflect their experiences. Rewarded actions tend to be repeated, while non-rewarded behaviors diminish in frequency. Fortunately, the overwhelming majority of driving experiences are accident free. However, each safe trip rewards the non-use of seat belts; the bother of buckling up has been avoided without injury. On the other hand, motorists who do use belts put forth that effort without any noticeable reward. Moreover, the feedback we receive about our own driving skill is misleading. We can drive in an unsafe manner, tailgating, speeding, etc., yet still make trip after trip safely. As a result, research by Swedish psychologist Ola Svenson has shown that 75% to 90% of the drivers in various countries consider themselves to be above average in skill and safety. People recognize that motor vehicle accidents do occur, but consider themselves

personally invulnerable. All too often, in the course of 50,000 trips, this belief proves false.

I am not generally in favor of government intrusion into the private lives of its citizens. I do believe, however, that for cases in which people do not and cannot appreciate the risk from a particular hazard, and thus fail to protect themselves, government has a duty to protect them. This seems to be such a case. Therefore, I strongly favor the passage of legislation making seat-belt use mandatory.