

PANEL DISCUSSION: BEHAVIORAL INTERVENTIONS

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SPEAKER: Doctor Robertson, you spoke of fatal crashes in the research dealing with England. Do you think fatal crashes are a reliable index as far as the effectiveness of education? Generally we think more of injuries rather than deaths as a basis in determining how effective a program is.

DR. ROBERTSON: The British study did not use deaths, it used all crashes. The Connecticut study was of all crashes. The 27 state study was of fatal crashes. Usually deaths are a more reliable indicator than nonfatal crashes because it is much better counted.

SPEAKER: I am Edward Bernstein, from New Mexico. My question for Dr. Robertson is, did you study styles of program or look at the differential of programs? It seems like the programs you describe have information and it is scary, but are there any programs investigating the meaning of driving and getting to the emotional issues with young people and what they hope to get out of their driving experience? Sort of a deeper exploration rather than presenting scary information?

DR. ROBERTSON: To my knowledge, the programs do not include many of those elements. They do include such things as belt use and alcohol use and that sort of thing. Your point is that there may be some educational program that might have some effect, and I am perfectly willing to admit that. I want to see the data and I want to see such a program and the data.

The other problem is that, even if you develop a program on an experimental basis with enthusiastic evangelists like my friend Scott Geller here, that does not mean the average high school coach out there will be able to implement it.

*Presented in a panel, Behavioral Interventions, as part of a *Symposium on Motor Vehicle Injuries* held by the Committee on Public Health of the New York Academy of Medicine December 7, 1987.

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SPEAKER: My question to Dr. Preusser is not so much about educating children about pedestrian crossings but how about the adults? In New York City I challenge you to find an adult who will stop where it says "don't walk" if there are no cars around. When one of my children was very young I began to cross Park Avenue against a "don't walk" light. The child said to me, "Daddy, it says 'don't walk'." My wife was with me and said, "Oh, there are no cars around. Let's walk anyway."

What do we do about educating the adults? In Europe, I assure you, the adults are educated and they do not cross when it says "don't cross."

DR. PREUSSER: The research that we were involved in was part of a much larger program which involved education for drivers, education for children, and education for adults, all sponsored by the National Highway Traffic Safety Administration.

Part of the failure with the adults was the tremendous difficulty in getting the message through to the target population. We had good luck with television stations in getting these things played for children, but we are just not going to break into prime-time television with public service the way we were able to do with the child materials during the cartoon hours.

Adults do congregate in some situations where we could get training through to them—primarily elderly adults. But if we are talking about the middle-aged work force of America, we are talking about substantial cost to get an educational program through to enough people to make a difference. With children, we were able to get to virtually every child in each of the three cities. Getting through to virtually every adult would have been a different problem with an educational message.

So we think adults are far more difficult.

I would like to add one other thing, and that is that with children we are essentially starting from zero, zero educational base and going up to rudimentary safe street crossing knowledge, stop and look left, right, left. Most adults have already developed safe street crossing or partially unsafe street crossing habits. We think it is a different problem and we have not yet solved it.

DR. GELLER: Could I add one related comment? It seems to me that a possible next step would be to teach children how to give beneficial feedback to adults. That is, once the child learns the correct behavior there might be a program to teach children to remind adults to emit the correct behavior also. And when adults do it correctly, children say "thank you."

Years ago when I was conducting litter control research, I found it constructive to have children give feedback to adults with regard to their nonlittering and littering behavior. This feedback technique would work with safety-belt use too. In other words, beyond teaching children how and why to

buckle up, we should teach them to give feedback to the older generation with regard to safety-belt use. Of course, we have to teach them how to give feedback appropriately.

SPEAKER: In regard to pedestrian safety, I come from Nassau County, with traffic safety. I recently went to a governor's representative conference in North Carolina. The statistics there coincide with our experience that the pedestrians being killed are senior citizens and that our statistics for the children are relatively the same over the years and pretty low. But when we get to the senior citizens, ages, 65 plus they skyrocket on any kind of a graph. Is anything being done for senior citizens?

DR. PREUSSER: Let me comment on the statistics. A typical urban area will find roughly 40%—it could be 30 or 50, but roughly 40% of its injuries are children 14 years of age and younger. Another 50% of injuries in a typical urban environment are going to be adults ages 14 to, let's say 64 and only about 10, 11, 12, 13, 14% will involve senior citizens.

What is happening is that if we look at pedestrian injuries, children are greatly over-represented, over-represented on the basis of street entries, and over-represented on the basis of their numbers in the population.

However, if we look at fatal crash data we find a very different situation. Here the elderly are greatly over-represented. We believe that the reason for that is that the elderly simply cannot withstand the crash forces that a vehicle presents to them. And, even if they do withstand the forces, they cannot recuperate from injuries as well as teenagers or children can. Kids are over-represented for injuries and fatalities.

As far as education for the seniors is concerned, I have to agree with you. That in an area which has been left wanting for many years. There is a sound slide show available now. I think the American Association of Retired Persons has put it out. I have not seen it, but I hear it is quite good. Other than that, I know of no concentrated programs for the elderly.

DR. ROBERTSON: We could get Scott Geller to try to get the music writers not to write songs like "Grandma Got Run Over By a Reindeer."

SPEAKER: I wonder if anyone has any data on how long the "walk" sign stays on in most places? I am not being facetious, but just to relate to a couple of previous questions, it might be more economical, in terms of Senator Moynihan's talk, to leave that on just a little longer so that people like myself, who aren't senior citizens as yet, could get across in the time that it says "walk."

DR. VARMA: Is there a traffic engineer to respond? I think they are timed quite carefully. They should be. It is not a standard interval.

DR. PREUSSER: May I respond? The urban data showed little indication that failure to get across in time is a major issue in pedestrian crashes. The sign tells you "walk" and then "don't walk;" it gives several seconds, presumably to make it across the street. Data indicate that the most critical time in the crossing is not the end of the crossing but the beginning of the crossing. We would like to train adults, children, everyone to stop and look left, right, left before they go into the street—to take the extra time.

In that first step the driver has not had a chance to know that there is a pedestrian in the street. The pedestrian just steps out, bang, a crash. The data suggest a preponderance of problems in the first few steps into the roadway, not when out in the middle of the street for a while and not at the end of the crossing.

SPEAKER: Given the difference of opinion, obviously, on educational approaches, is there any potential for increasing the standards for performance for getting a license to drive an automobile as alluded to by Senator Moynihan? There are obviously economic and logistic problems, but let us say we had very stringent driver requirements. Would you predict any improvement or are we talking about behavioral modifications that go beyond that?

DR. ROBERTSON: There is some difference, as illustrated in California, that standards can make some marginal difference. But it is the typical screening problem in public health. How many false positives and false negatives will we have with any kind of screening? Driver licensing is one in which we would have enormous numbers of false positives and negatives.

DR. GELLER: I have collaborated with driver educators and found their educational methods to vary enormously. Some essentially use a direct lecture approach, others show films, and others emphasize interactive discussion. Psychologists have known for years, since Kurt Lewin's classic research in the 1950s, that the discussion format is much more influential than a directive approach with a passive audience. Tell them and they will forget, demonstrate and they may remember, involve them and they will understand.

While a macro-analysis might show, as Leon Robertson demonstrated, that there is no effect of driver education, I believe that if you conducted a more detailed analysis of one program versus another, differential effects would be found across programs. Those programs following basic teaching/learning principles would be making the most beneficial difference.

Furthermore, if driving instructors followed stringent, objective criteria to indicate when a student is ready to drive, then indeed driver education programs would make a difference.

Even the driver's license tests vary dramatically from state to state. Some require you to actually get in your vehicle and go through a mock course. Others send you out on the highway for a performance test. Perhaps others do not even include actual vehicle driving in the examination. Certainly, behavioral standards for driver readiness are needed.

SPEAKER: Do any data compare, let us say, the efficiency of our aviation program, which is very targeted, uniform, requires a relatively large number of hours of actual performance and demonstration, as well as testing not only mechanical competence but decision-making in potentially hazardous situations—comparing that kind of program with motor vehicle operations?

DR. PREUSSER: I would like to go back to your previous question for a moment. The previous question is clearly concerned with performance of a young person and the ability to handle an automobile in various situations. But there are other criteria for licensure and these other types are things like the time one must wait for a road test and the number of hours one must spend in a classroom.

New York has been, if anything, a leader in establishing a whole series of hurdles for a young driver to get his license at age 16. At the end of the hurdles, the license is no good between 9:00 P.M. and 5:00 A.M. in the morning. New York has had a New York curfew law, and that whole system of stretching out that period, whether it is performance based or simply road blocks, has had an excellent record in slowing down the rate of licensure of 16 year olds and, as a result, the number of crashes they are involved in.

DR. GELLER: Have you ever seen driver instructor vehicles with occupants not using safety belts? I have. If you do see this unfortunate situation, get the phone number and call the agency. I have done that on several occasions. If driver instructors do not consistently use safety belts, you can imagine how variable they can be in training.

DR. ROBERTSON: To my knowledge, there has not been any of that kind of intensive training for drivers, to answer your question. You must remember, with pilots, there is a combination of training and selectivity. Most commercial pilots came out of the military until recently. All the crotch rocket jockeys, as Senator Moynihan might call them, dove into the mountains while they were in the military. So we had substantial selection before we got to training for commercial flying.

SPEAKER: Just in reference to the question about licensing drivers, criteria for licensing and getting a first driver's license are probably important. What is even more important is removing the license when people have proved that they are a threat to society. That is, in the studies of drunken driving that I

have done, it is very difficult to enforce that which has been shown to be the most effective penalty, license removal. People resist that. There are seven states where there is a suspension period; people are given hardship permits. Actually to have a firm license suspension in which people are not allowed to drive has been difficult to legislate and difficult to enforce.

DR. PREUSSER: There is one exception to that. We shall publish a study in the spring having to do with Wisconsin. Wisconsin in 1982 passed a law which ruled 100% license suspension for drunk-driving conviction. What made Wisconsin different from the other states is that they meant it. If you go from state to state, mandatory license suspension does not mean that but something else. But in Wisconsin they went so far that if a local county court did not pull the license, the state people in Madison did. They had that authority. They had 100% license removal beginning in the spring of 1982.

One of the results of that study is that we can show that for the first three to six months while their license was removed, there was a tremendous reduction in recidivism, repeat alcohol-related crashes, repeat violations. They were able to do it. We also have evidence to suggest statewide reduction in alcohol-related accidents during that period.