

THE EFFECTIVENESS OF INCREASED POLICE ENFORCEMENT AS A GENERAL DETERRENT

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Social scientists have long been skeptical of the power of the threat of legal sanctions, as invoked by enacted laws, to control behavior. This skepticism has been supported by the failure of empirical studies, especially those based on official records of crimes and of the apprehension of offenders, to provide convincing evidence of the deterrent effect of legal penalties. The possibility that an experimental design might avoid the defects of other studies of deterrence has been suggested, and for this purpose, traffic law and its enforcement are especially salient. This paper reports on such a field experiment, which resulted in the conclusion that an increased threat of legal punishment, albeit a relatively small fine, reduced by one-half the number of customary offenders.

I. INTRODUCTION

In British Columbia, legislation mandating the use of seat belts by private motorists and their passengers went into effect in November 1977. Reflecting the educative effect of the publicity and controversy associated with this legislation (cf. Ross, 1982: 27–28, 71–72), the seat-belt utilization rates had reached 33 percent for drivers and 24 percent for front-seat passengers just prior to enactment. Immediately upon the new law coming into force, these rates jumped to 72 percent and 66 percent, respectively. Thereafter, however, in a pattern closely resembling that described by Ross for drinking and driving laws, the rate of compliance gradually declined as motorists recognized that the risk of apprehension was small. By March 1981, only one-half (52%) of drivers and 47 percent of passengers were using seat belts.¹

¹ These data are from unpublished surveys by the Insurance Corporation of British Columbia.

In an experiment,² I examined the question of whether motorists' perceptions of an increased risk of punishment, independent of any change in the severity of that punishment, would produce higher compliance with the law. Subsidiary issues concerned the significance of age and gender in the response to increased threat sanction.

To investigate these questions, I selected a test community from among those in which enforcement, as measured by the number of charges (tickets) being issued by police, was low. This community also had its own local radio station and a weekly newspaper through which residents could be informed of any program of increased enforcement. It was also accessible to researchers and had sites suitable for data collection. Moreover, I expected local police to be compliant with the plan to increase their enforcement activity. A community of similar size was selected as a control. It was likewise accessible to the research team, had sites suitable for data collection, and was sufficiently remote from the test community for exposure to the media campaign to be unlikely.³

The experiment was divided into two phases, each of two weeks duration. In the first phase I directed a media campaign to local residents, using newspaper advertisements and radio spot announcements. Unlike earlier educational programs aimed at convincing motorists of the preventive value of seat-belt use, the campaign stressed the threat of fines for nonuse. The chance inclusion of a local reporter as a subject during the pretest sampling also resulted in news column coverage of the "seat-belt push." At the same time, however, the experiment necessitated the use of a careful procedure in subsequent surveys to avoid bias. Moreover, anyone who appeared to be "buckling up" while approaching the observation site was not

² The plan to test the effects of enhanced enforcement on seat-belt use was prepared by and executed under the direction of Alan Lamb. Evaluation of the experiment was carried out by Roy E. L. Watson under contract with the Insurance Corporation of British Columbia.

³ The community that best satisfied these criteria was known to have a somewhat higher level of enforcement than the test community and for this reason was expected to display higher initial compliance. This does not invalidate its use as a control, however, for while some extraneous factor influencing seat-belt usage in British Columbia might have had a relatively greater impact on the test community, it should also have resulted in some increase in usage in the control. One such influence was a series of television announcements relating to seat belts, sponsored by Transport Canada, that appeared during the experiment. This may have reinforced the effects of the media campaign in the test community but the data from the control site do not indicate any general increase in utilization due to this or other uncontrolled events. In fact, as may be seen in the survey data, seat-belt usage in the control declined during the period, apparently because of an unforeseen reassignment of police that had reduced enforcement.

included in the sample. In the second phase, I planned an actual increase in enforcement activity by police.

II. DATA COLLECTION

Studies of seat-belt use have usually involved either the observation of drivers and front-seat passengers in vehicles passing an observation point or self-reports obtained from motorists themselves. The former technique is necessarily restricted to front-seat occupants in later model vehicles equipped with shoulder belts visible to a curbside observer. Self-reporting probably leads to an overestimation of actual usage. One alternative to such techniques, a police-staffed roadblock, would have permitted the direct observation of all occupants in all vehicles. However, motorists aware of this sort of enforcement campaign might "buckle up" on approaching a roadblock to avoid receiving a fine. To avoid the problems associated with each of these techniques, I decided to conduct a direct observation of all occupants of a sample of vehicles stopped at an intersection. Both to facilitate observation and to record data descriptive of the motorists, their vehicles, and any passengers, I administered a brief questionnaire and simultaneously recorded belt use.

In collecting data, traffic was impeded as little as possible. In the event that a driver was unwilling to participate for any reason—a rare occurrence—I allowed the vehicle to proceed. In practice, the first vehicle stopped at the intersection was approached for data collection. If a line of cars developed while this was underway, I let waiting cars proceed and attempted a further interview only after the congestion had cleared. This procedure produced a random selection of vehicles. Because the reasons for driving and general traffic conditions vary through the day and week, I conducted my observations during four periods, which began at 10:00 A.M., 12 noon, 4:30 P.M., and 7:00 P.M..

To establish the level of seat-belt utilization in the community prior to the campaign, I began data collection three weeks before the first media announcements. I also collected data after each phase of the campaign, and again ten weeks after the conclusion of phase two. To ensure that any changes in the test community resulted from the campaign and not from some extraneous factor, I collected data from the control community at times corresponding to those used for the pre-test and post-test samplings made in the experimental community. I established the number of usable, completed questionnaires that were ob-

tained for each time period of the pretest as quotas for the later samplings.

III. POLICE ENFORCEMENT

As noted, I chose the test community from among those in which relatively few charges for seat-belt violations were being laid. Since enforcement entails proactive policing, members of the local detachment had to be convinced of the value of belt usage in protecting occupants. As a preliminary to the experiment an official of Transport Canada gave representative officers from municipal and Royal Canadian Mounted Police (RCMP) detachments on Vancouver Island a presentation on the scientific evidence of belt effectiveness. A series of slides taken at this event with a voice commentary was subsequently prepared for presentation to police in the test community. A questionnaire administered to police before and after this exposure indicated their increased understanding of the value of belt use and support for enforcement after the presentation (see Watson and Bell, 1982).

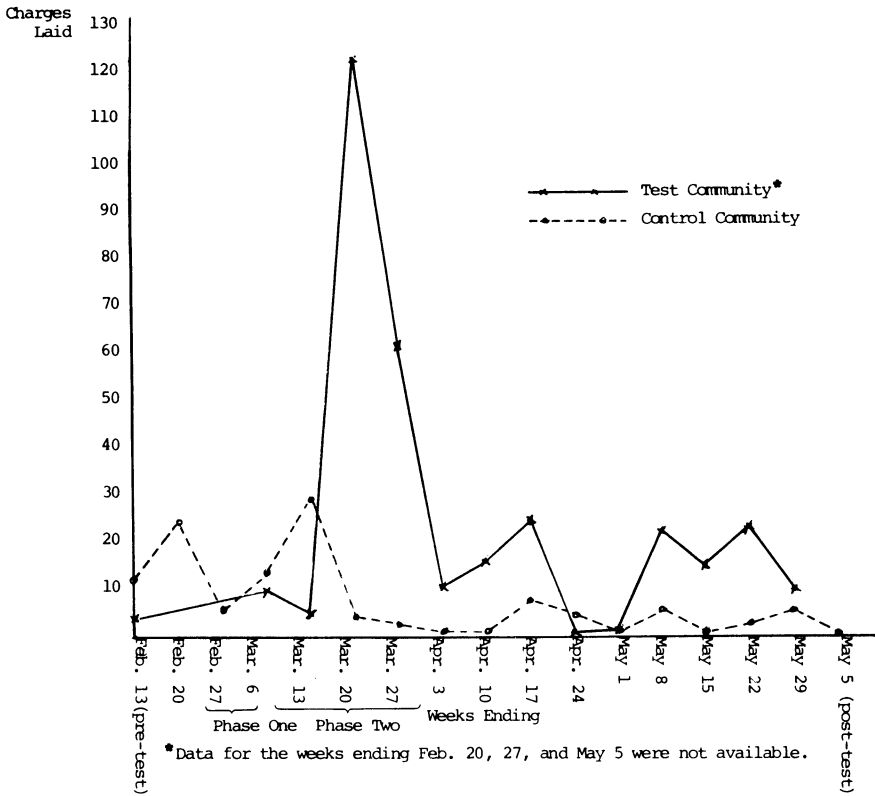
The basic measure of enforcement was the number of charges being laid by police in that jurisdiction. As shown in Figure 1, a small increase in the level of enforcement occurred prematurely during the media phase,⁴ but, during the first week of phase two, police laid thirty times as many charges as they had before the campaign began. While the number in the second week was not as high, it was still above pre-test levels. Thereafter, while the level of enforcement continued to fall, it remained above that of the pre-test period.

IV. FINDINGS

In the test community, a pre-test seat-belt usage rate of 44.6 percent for drivers increased by 18.1 percent to the end of phase one and by another 12 percent to the end of phase two, to reach a total of 74.4 percent (see Table 1). Front-seat passengers' usage rate increased by 33.3 percent overall, while that of back-seat passengers rose even more dramatically—by 42.3 percent. By the post-test sampling, only small declines of two or three percentage points had occurred.

⁴ Word-of-mouth reports of this increase may have reinforced the effect of the media messages. However, an evaluation of the media impact, exclusive of any change in actual enforcement, was prevented. Another possible influence on belt usage was the series of television announcements begun coincidentally during the experiment by Transport Canada (see n. 3 above).

Figure 1. Police Enforcement of Seat-Belt Legislation in the Test and Control Communities



My data also provide details of usage for subgroups of drivers. Females were somewhat more likely than males to use seat belts before the campaign and responded more rapidly to the campaign to attain a utilization rate at phase two nearly thirteen points above that of male drivers. Age was also related to usage. Younger drivers, while more than doubling their rate of usage during the campaign, remained fully 20 percent below drivers aged sixty-five and over. Also for the older drivers, usage continued to climb to the post-test sampling, while that for drivers aged twenty-five to forty-four dropped sharply. The model year of the vehicles was likewise related to belt usage. While the rate of usage in older vehicles climbed to the post-test sampling, that in newer models dropped after the conclusion of the formal campaign. For the control community, usage between the pre-test and post-test samplings declined from an initially higher level.

Table 1. Seat-Belt Utilization in the Test and Control Communities*

	Test Community												Control Community					
	Pre-Test			Phase One			Phase Two			Post-Test			Pre-Test			Post-Test		
	Total	Wearing	%	Total	Wearing	%	Total	Wearing	%	Total	Wearing	%	Total	Wearing	%	Total	Wearing	%
Occupants	399	178	44.6	399	250	62.7	399	297	74.4	399	285	71.4	399	243	60.9	399	226	56.6
Drivers	155	51	32.9	191	91	47.6	148	98	66.2	140	89	63.6	148	80	54.1	142	61	43.0
Front-seat passengers	39	12	30.8	84	36	42.9	26	19	73.1	40	29	72.5	86	41	47.7	72	41	56.9
Back-seat passengers	593	241	40.6	674	377	55.9	573	414	72.3	579	403	69.6	633	364	57.5	613	328	53.5
All																		
Drivers by gender	166	77	46.4	159	110	69.2	153	126	82.4	164	124	75.6	180	124	68.9	196	125	63.8
Female	230	99	43.0	240	140	58.3	246	171	69.5	235	161	68.5	218	118	54.1	203	101	49.8
Male																		
Drivers by age	104	33	31.7	96	53	55.2	92	63	68.5	104	71	68.3	43	23	53.5	49	19	38.8
16-24	165	73	44.2	180	108	60.0	187	136	72.7	178	118	66.3	177	98	55.4	164	88	53.7
25-44	87	51	58.6	90	64	71.1	85	67	72.8	88	69	78.4	114	76	66.7	119	78	65.5
45-65	38	21	55.3	31	23	74.2	35	31	88.6	29	27	93.1	63	44	69.8	67	41	61.2
65-																		
Drivers by vehicle year	119	40	33.6	130	70	53.8	113	66	58.4	90	56	62.2	130	63	48.5	121	62	51.2
1963-73	275	136	49.5	266	178	66.9	284	231	81.3	307	228	74.3	267	179	67.0	276	163	59.1
1974 or later																		

*For the complete sample of 399 vehicles, the estimated error is less than 5%.

V. CONCLUSION

Prior to the enforcement campaign in the test community, nearly 45 percent of a random sample of drivers were using their seat belts. In view of the small risk of apprehension for noncompliance with the law, it is likely that their action was not the result of any threat of penalty but rather of their belief in the protective value of seat belts or habituation to their use or both. The enforcement campaign was aimed at the nonusers and, while not entirely neglecting the injury-preventive function, stressed the fine to which nonusers would be subject if apprehended.

At phase two over one-quarter of the drivers and a somewhat higher percentage of their passengers continued to violate the law. Clearly the total number of trips during which drivers or their passengers or both were not buckled was far in excess of the number of persons apprehended and charged, even during the peak period of police enforcement. Social scientists who are skeptical of the ability of legal sanctions to enforce compliance with laws that are unsupported by social norms could point to this evidence of continued widespread violations as support for their position. At the same time, however, the threat of punishment or, more accurately, increased awareness of this threat communicated by radio, newspaper, and word-of-mouth reports reduced the number of nonusers by nearly 50 percent by phase two.

Meier and Johnson insist that "research on deterrence must utilize observations of both compliance and non-compliance" (1977: 295). The data reported here demonstrate the importance of their observation. Analysis of the official crime rate based on the number of charges laid could reveal nothing of the true level of deterrence obtained. By directly observing the behavior of drivers and their passengers, however, this research has shown one way that valid estimates of the effectiveness of legal sanctions can be made.

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