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INCREASING SEAT BELT USE IN THE COMMUNITY

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Introduction

Safety experts know that the <u>single most cost effective remedy</u> for highway deaths is to buckle up the lap/shoulder belts that are already in cars. The bad news is that belt use is quite low--only about ten percent across the country. Furthermore, most efforts to promote belt use are marked by a resounding lack of success.

Now, however, in at least six different trials of a new approach, usage rates of 60-90 percent have been recorded. This approach can be used at schools, plant sites, office complexes, and whole communities. But first, consider these background points:

Background 1: Automobile Crash Deaths. For persons under 34, the car crash is the single major cause of death, leading every other category. That is difficult to grasp because we drive so much and driving usually seems so safe. For those over 34, highway crashes are no longer number one, but nevertheless remain one of the three leading health cost categories.

Background 2: Lap/Shoulder Belts. The other resounding fact is that when properly worn, lap/shoulder belts constitute the most effective death preventing measure that exists relative to automobile crashes. Thousands upon thousands of people die in car crashes each year because they are unrestrained. For every 100 crash victims who die unrestrained, fully 65-70 would survive if restrained. Not only are belts highly effective but they have low cost relative to other safety measures, and this cost has already been paid.

The "bottom line" is that increasing lap/shoulder belt use constitutes by a wide margin the most cost-effective highway crash countermeasure that exists. Really, instead of saying highway crashes are the leading killer for those under 34, we should say that not wearing seat belts is the leading killer.

If Belts are So Good, Why Don't People Wear Them?

That is the irony, isn't it? Recent national surveys claim that only eleven percent of people buckle up. Even worse is the fact that typical promotional efforts seem to have little effect in increasing seat belt use. Thus, billboards, bumper stickers, public service announcements and advertising campaigns etc. have too little discernable effect. About 30% use is tops. In fairness that is partly because these promotional efforts have been so few and far between.

Now for the Good News

In recent times a new approach has been tried successfully in six different places with very good results. This "incentive" approach has resulted in belt use rates of 60-90 percent, achieved in several different populations. The essence of the program and what distinguishes it from other approaches, is the use of modest incentives or prizes awarded to randomly selected belt wearers. To illustrate, consider the project just completed at Chapel Hill High School, NC.

I. <u>Baseline Belt Use</u>. Observations of faculty and student belt use near the school grounds indicated about 19 percent wearing rate before any knowledge of the project to come. This is high relative to the national average, but is commensurate with the educational and economic characteristics of Chapel Hill.

II. Educational Phase. After suitable baseline monitoring, presentations were made to the students. Crash test movies were shown, explanations and persuasions were made, along with an explanation of the contest procedure (which began one month later). During that month build-up phase, UNC basketball players and local VIP's made recorded intercom announcements, to keep the issue at the forefront. Shoulder belt use increased to 35 percent during this period. We have no illusions that the educational phase alone did this. It was, we think, more a matter of the promise of the coming contest.

III. Incentive Phase. For a one-month period, we gave awards briefly each school day, varying the time and place according to a pre-set random schedule. We stopped about 12 or 15 cars and gave \$5 coupons to anyone buckled up in the cars. During that month belt use increased to the 60-80 percent range.

We wanted to be sure that students did not simply buckle up in the vicinity of the school ground, therefore, we issued bumper stickers to all students (in school colors, reading "Belt 'em Tigers"). Thereafter, when project observers saw such bumper stickered cars anywhere around town, they checked belt use and the license plate. For those wearing belts, additional \$5 prizes were given. Belt use in the cars seen about town was in the same 60%+ range. Total value of the prizes was about \$1 per student overall.

IV. <u>Follow-Up Period</u>. In this particular project, the research procedure called for stopping the promotion scheme "cold" at the end of the incentive phase, to determine the maximum deterioration of belt use. Belt use fell off, but remained twice as high as the baseline level at the end of the school year.

Good Scientific Underpinning for the Incentive Approach

The common element of the foregoing success story is the use of incentives to show drivers there is a <u>benefit</u> to wearing the belt. It would be a mistake, however, to regard this incentive approach as merely a contest or "gimmick."

The technique of intermittent reinforcement or reward of desired behavior addresses a very fundamental principle of the behavior of virtually any living organism high enough on the developmental scale to be capable of learning.

Literally thousands of research studies reported in the scientific literature attest to the validity of the following aspects of those principles:

- a. a "reward" that follows soon after the desired behavior <u>increases</u> the strength of that behavior.
- b. if the reward is meted out intermittently instead of continuously, the behavior is strengthened even more.
- c. the magnitude of the reward need not be great as long as the probability of a reward is perceived as being reasonable.

The reason for the <u>success</u> of the incentive approaches tried so far is that they capitalize on this very fundamental principle of human behavior.

How This Approach Can be Used at a School or Business Location

This incentive approach is applicable at any factory, business, school or other institution where cars regularly come and go. The essential ingredients include an educational campaign with continuing emphasis on seat belt use along with clear cut support by management. However, <u>just</u> the educational campaign is not enough. The other essential ingredient is an incentive process--this makes the difference between success and failure.

The incentive scheme need not have an overall high cost. Individual awards for wearing belts can be quite modest. Several different approaches have been tried successfully:

Approach A. At institution parking lots, according to a random schedule (HSRC would be glad to help in this regard) random cars were stopped and belt wearers received a coupon redeemable for a gift or cash. The idea is to carry out this random process enough times and at enough different places to build up an expectation that at any given time or place there is a chance to be selected as a winner. In the afternoon, as cars queue up to leave the parking lot, there is of course a good chance that people will see the observers standing near the exit, and people may buckle up because of that. However, in the mornings as they arrive they do not have this opportunity. Interestingly enough, we usually saw higher use rates in the morning.

<u>Approach B</u>. At intermittent times and places, (different gates or parking lots, in the am or pm, sometimes early and sometimes late) stop all cars in which someone is obviously wearing the shoulder belt and give some small token gift to <u>everyone</u> wearing a belt. The incentive could be candy mints, "trick or treat" candy, fast food sandwich coupons, etc.

Here of course the value of candy costing only a few cents is more symbolic than real. Giving the candy reminds the person that they should be wearing the belt. Also in some small way there is a social transaction which perhaps puts a bit of pressure on the recipient to buckle up. To an extent the driver might feel, "here is this person standing out in the weather, with enough interest in my welfare to be concerned that I wear a seat belt, and actually to give me something for wearing it."

This small token amount is surely not enough to convince a truly resistant driver. Indeed the results to date seem to indicate that Approach A (higher cost, of course) has achieved better results. <u>Approach C</u>. As a combination of A and B, stop <u>all</u> belt wearers and give the great majority some little trinket (like a package of mints) but at random give others bigger incentives like a \$5 coupon.

Suppose for example that about 500 cars arrive or leave the lot on a given day. If one or more fast food chains gave a total of 5000 "2 for 1" sandwich coupons and if, in addition, there were 500 \$5 coupons, then one could adopt a strategy where essentially all belt wearers were stopped repeatedly over a fairly long period. Then, according to a previously specified random schedule, 10 out of 11 recipients would be given a sandwich coupon and the other would be given a \$5 coupon. Thus, it is at least possible that there can be an additive advantage of both Approach A plus B. The author is not aware that exactly this approach has been tried.

<u>Approach D</u>. All people wishing to participate could be given something like a Bingo card. Each time they were stopped and were wearing a seat belt, a decal could be appended to the Bingo card. When they accumulate the specified number of decals on the card, they could exchange that card for a gift. The advantage of this particular approach is that many belt wearers would be stopped and there would be a "build-up" to the prize.

Here there is a reliance on the principle of "secondary reinforcement." Habit formation is often facilitated even if rewards are given which have no intrinsic value themselves, but which are associated with a true reward. This approach has the advantage that one could stop many people and get the benefit of that transaction, and yet the cost would remain low because the use of the decals might be set up such that a person would have to be stopped four or five times to accumulate enough for a prize.

Of course, the magnitude of the final award could vary. After accumulating enough "winners," perhaps the prize would be a \$10 coupon. The advantage is that by using decals as an intermediate award, many more people can be stopped than would ordinarily be possible with a given number of prizes.

<u>Approach E</u>. Estabish an overall lottery for the entire factory or school population whereby if a certain overall wearing percentage is achieved and maintained over a certain time period, then a drawing is held for a prize. Thus, if the whole population of the particular institution achieves a 50 percent cumulative wearing rate over a one-month period, the grand prize drawing would be held.

My first impression was that this interesting variation would not be very successful. Reinforcement theory seems to indicate that the better way to influence behavior is to have a somewhat higher probability of reinforcement even though the reinforcement magnitude is rather modest. However, the results of a trial of this approach clearly contradict my assumption. At the General Motors Technical Center this approach was tried. The <u>probability</u> of winning was rather low, (less than one in 6000), but the level of belt use obtained was quite high. At General Motors, if a 70 percent wearing rate were sustained cumulatively for three months, then a drawing would be held and the winner would get a free car. The 70 percent was achieved. It should be said that employees at that facility include an unusually high percentage of highly educated, higher socioeconomic level staff.

Another approach would be to give <u>everyone</u> a small gift if the cumulative goal is met. At a Dupont plant in Pennsylvania management said that if a 90 percent belt wearing rate were achieved (yes, 90 percent--amazing isn't it?) over a several month period, then <u>each person in the entire plant</u> would receive a gift. The 90 percent was achieved.

One of the interesting features of these latter approaches is that peer pressure becomes a factor. If Person A doesn't buckle up, he hurts Person B's chances to win too.

There are other variations too. For example, incentives could be given to wearers at bank or fast food drive-in windows.

Communitywide Approach

The foregoing describes what could be done at a single institution, factory, or school. However, this incentive approach could also be used in a whole community. This approach could be carried out as a promotion scheme by a single merchant, store, or store chain, radio station, etc. Even better, the approach could also be undertaken by a <u>group</u> of merchants with a common coordinated campaign.

The Prizes

In its "ultimate" form the program might have the following characteristics. Suppose, that quite a number of merchants could be persuaded to donate cash or merchandise for prizes. Suppose that 15, 20 or even 50 merchants gave coupons or cash, and that the range of prizes included items such as "2 for 1" coupons at a fast food store, coupons good for free dry cleaning, coupons redeemable for cash, small bags of candy, six packs of soft drinks etc.

It is conceivable that there might be a total of several hundred or even several thousand incentives to be awarded, with individual incentives varying from those worth a few cents upwards to \$5 or \$10. Given this array of prizes then the strategy would be to present them mixed up in a random order. Thus, if 50 awards were to be given at a given location, they would be mixed up randomly ranging from "2 for 1" food coupons to coupons worth \$5 or \$10.

Suppose also there were a few large prizes consisting for example of a fully equipped automobile, or prizes such as stereos, cameras. The prizes would thus range in a kind of pyramid from the single highly valuable car at the top, down to several hundred lesser prizes such as sandwiches, soft drinks etc. (This "pyramid" characteristic is indeed the way most fast food stores set up the merchandising contests they frequently sponsor.) Merchants would get the usual advertising benefits from this participation plus the community relations and safety benefits.

How to Win

The "contest rule" would be this: according to a random sequence, drivers are stopped. If they are belted, then they receive one of the prizes according to the random sequence by which those different prizes are given out. In addition, their name is entered to become eligible for the grand prize drawings.

For example, on a given day, at given place, the master random schedule might call for giving out 40 prizes over the course of an hour or two. Thirty-five of those prizes might be fast food 2 for 1 sandwich coupons, four \$5 coupons and one \$10 coupons. As persons stop for the signal light, according to a random schedule, the car would be approached and any belt wearers would be given a prize coupon. In addition they would be given a special post card to be signed, and mailed in as their entry for the grand prize. The special post card would be designed to make forgery difficult, and one would keep careful track of how many were given out.

Thus, each belted person could win two ways: he would win whatever prize he happened to receive and he would also be entered in the grand prize drawing. One might also have a secondary feature whereby if the person were also displaying an "official" promotional bumper sticker associated with the seat belt program, that person would have a triple entry into the lottery.

The idea would be that wearers would have many opportunities to win because the contest goes on for a long time. They never know when or where they might be seen; therefore, they should wear the belt <u>all</u> the time. Each time they <u>do</u> win, they get an entry in the drawing for the final large prize, and they can triple their chances of winning by displaying the bumper sticker.

Stopping the Car

Now let's consider the process by which the car is actually stopped. The idea of the program would be to carry out these stops at many different times and places around town. For example, cooperation might be solicited from various establishments with drive-in windows such as banks, dry cleaners, fast food stores, etc. As people approached, belted ones might be given prizes. Another way to stop cars would be as they entered or left parking lots. A third way would be to stop cars as they queue up at traffic lights -- when they have to stop anyway. In all of these instances, the whole transaction could take place without discernably interfering with traffic movement.

In quiet low volume areas, <u>moving</u> vehicles could be flagged to a stop without impeding traffic. Here, however there is a security issue. Some drivers might be made apprehensive by having someone approach the car. No matter how well publicized the effort there could be people who had not heard of the project and might be alarmed. Also, there might be situations in which the observers might find themselves in an embarrassing or an even dangerous situation if they approached and tried to wave moving cars to a stop.

However, to enhance the idea that you can win <u>anywhere</u> by being belted, some degree of stopping moving traffic would be desirable. One approach would be to have the cooperation of the police. They could accompany the observers and assist in the stop. The manpower requirements of this police assistance are very small. Even a large number of prizes could be given out over a year period in a very small amount of time--probably not more than 30 minutes to an hour per day would be necessary.

The times, places and the interval between prize giving could vary randomly. For example, sometime on the western part of town in the morning, then skipping till Thursday, then the following Monday afternoon, then on Saturday at a mall. The idea would be to create a perception that <u>anywhere</u> in town at any time a driver might receive a reward for wearing the belt.

Evaluating Results

The prize giving locations should be randomly varied, but for evaluation purposes there must be a stable set of belt use monitoring sites. Therefore, in the planning period before the contest is announced, certain sites should be selected taking into account traffic patterns. Belt use should be monitored at these sites over the project duration. Ten to 20 locations might be selected, and according to a sampling schedule those locations would be monitored. Any one location might not be monitored more than once or twice a week, but the monitoring activity probably should be ongoing for several hours each week. The belt observation locations would remain constant throughout the study, and would reflect any growth in belt use.

Of course publicity should continue throughout the project. A permanent sign might be posted at one place in town which would display the latest belt use figures. Publicity should be given to the prize winners. Publicity should be given to the levels of belt use achieved. News coverage should be given to any automobile accidents that occur in which belts were a factor.