

PUBLIC AWARENESS AND AUTO-THEFT PREVENTION:
GETTING IT RIGHT FOR THE WRONG REASON

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ABSTRACT

This paper reports an evaluation of a public awareness campaign aimed at encouraging the use of car security measures, particularly Vehicle Identification Number (VIN) etching. It was found that the campaign coincided with an immediate reduction in the incidence of auto-theft. However, there did not appear to be any significant change in the behavior of car owners which would account for this reduction. Rather, it seems the reduction in thefts may have come about through an increased perception of risk the campaign generated among potential car thieves.

Motor vehicle theft in Australia is widespread, generally exceeding figures for foreign industrialized nations (Higgins, 1997, p. 4), and over the past decade has emerged as one of the nation's fastest growing crimes. Domestically this crime costs the Australian community approximately A\$1 billion annually and, if theft rates cannot be curbed, costs are destined to inflate in the future as the cost of automobiles, insurance premiums and repairs increase. While Queensland fares well in comparison to other states of Australia (only Tasmania has a lower rate of vehicle theft per 100,000 of the population), thefts continue to rise. Between 1993/94 and 1994/95, Queensland experienced a 6% increase in the number of reported thefts, following a 7% rise for the period 1992/93 - 1993/94 (Walley, 1996, p. 16).

In response to the increasing rate of auto-theft, the Queensland Police Service (QPS), in partnership with major insurance companies and motorist organizations, developed Project HEAT (Help Eliminate Auto Theft). HEAT was a community awareness campaign whose principle aim was to encourage the use of security devices, and in particular, the etching of the Vehicle Identification Number (VIN) on car windows. The campaign was state-wide, although there was a special focus on the south-east corner of the state where the population is concentrated and where 73 per cent of all state auto-theft occurs. The predominant advertising medium was television, although support was also received from regional newspapers and magazines. In addition, Queensland's 2.6 million motorists were reached through a letter from the Commissioner of Police attached to Queensland Transport registration renewal notices promoting vehicle security and identifying locations where motorists could obtain advice in this regard. Project HEAT exposure was also increased through other police-oriented initiatives such as Neighborhood Watch meetings, Crime Stoppers,

crime prevention training courses, HEAT 1 and HEAT 2 vehicle number plates and HEAT vehicle bumper stickers. All advertising material reflected the campaign's central theme: 'Car Theft. It's not just a crime. It's a violation'.

Publicity campaigns such as HEAT which exhort motorists to adopt opportunity reduction strategies can be understood in terms of situational crime prevention (Clarke, 1997). The use of physical security devices such as door locks, steering wheel locks, engine immobilizers and so forth, aim to *increase the effort* involved with auto-theft. Installing car alarms, parking vehicles beneath street lights, and so on utilize the principle of *increasing the risk*. VIN etching is primarily concerned with *reducing the rewards* of auto-theft by decreasing the potential for resale and hence decreasing the dollar value of the vehicle.

There is good evidence that the adoption of opportunity-reduction strategies can be successful in preventing auto-theft. For example, the mandatory introduction of steering column locks has been shown to reduce or stabilize auto-theft rates in Germany (Webb, 1994), Great Britain (Mayhew, Clarke and Hough, 1992) and the United States (Clarke and Harris, 1992), although these studies have also noted the risk of displacement to older, unprotected vehicles. With respect to VIN etching, a central feature of the HEAT campaign, Walley (1996) reported research by the Automobile Club of Michigan showing that vehicles etched with VIN's are 45% less likely to be stolen than unetched vehicles.

Whether these levels of success can be achieved via media campaigns is less certain. Previous research into the effectiveness of such campaigns has suggested that

advertising of this kind is a relatively weak method of producing the desired behavioral changes (Monaghan, 1988; Poyner, 1993). The initiatives reported by Webb (1994), Mayhew et al (1992) and Clarke and Harris (1992) were introduced in a blanket fashion and were backed by legislation. However, the success of publicity campaigns depends upon the extent to which individual car owners can be persuaded to adopt the suggested prevention strategies. The inherent danger of such campaigns is that auto-theft risk will be reduced for car owners who use opportunity-reduction strategies, but that there will be little impact on overall auto-theft levels.

With these reservations in mind, this study examines the effectiveness of Project HEAT. Specifically, three questions are addressed:

1. Did Project HEAT result in increased community awareness about auto-theft prevention?
2. Did Project HEAT increase the use of car security measures, in particular, VIN etching?
3. Was there a reduction in car thefts after the introduction of Project HEAT?

Method

HEAT was introduced at the end of March, 1997 and ran for three months. The evaluation of HEAT utilized a pre-test/post-test design. Three databases were examined: responses on a community awareness survey, VIN etching figures, and police auto-theft statistics.

Community awareness survey

A questionnaire was employed to gauge levels of community awareness. The questionnaire was designed to measure two facets of community awareness: 1) familiarity with Project HEAT, its aims and strategies, and, 2) use of vehicle security and anti-theft devices. The questionnaire predominantly utilized a closed-question format to assess awareness although two open-ended questions, designed to gauge degrees of knowledge, were also incorporated. The questionnaire was administered face-to-face at the Logan Hyperdome, a major shopping complex in the center of the study area and a location identified by police as high risk area for auto-theft. There were three data-collection points, one pre-test (18 March, n=149) and two post-tests (9 April, n=150; 22 April, n=150) which followed immediately after periods of media saturation. Sampling was accidental. Females (62%) and people aged 26-40 (33%) were somewhat over-represented in the sample, but since the survey site was selected on the basis of the exposure of patrons to risk of auto-theft, deviations from a normal distribution were not considered to be a problem.

VIN etching

Because the promotion of VIN and registration etching was such a predominant component of Project HEAT, the decision was made to incorporate externally generated figures on etching levels. The Royal Automobile Club of Queensland (RACQ) source data, obtained from registered etching contractors, was used to determine whether levels of etchings had changed since the inception of the campaign. While this database is not a complete account of the numbers of etchings occurring in the study area (i.e., some private contractors are excluded), it can be considered indicative of overall trends.

Police statistics

The QPS database was used to analyze levels of auto-theft. (Note that while figures were supplied by the QPS they are not official police statistics.) Only thefts of passenger cars were analyzed -- thefts of motor cycles, trucks, buses, tractors and so forth were excluded. Because HEAT focused on the south-east section of the state (Logan, Ipswich and Gold Coast), analysis was restricted to these regions. Further, because auto-theft rates are subject to seasonal fluctuations, both 1996 and 1997 figures were examined. That is, it was not considered valid to compare pre-HEAT theft rates with post-HEAT without taking into account the established trend for that period. Thus, the study used data from the first six months of 1996 and the first six months of 1997. The six month periods were divided into two quarters (quarter 1, January to March; quarter 2, April - June). Quarter 2 of 1997 was the 'test' period because it coincided with Project HEAT.

RESULTS

Community Awareness Survey

Chi square was used to examine the familiarity with Project HEAT ('never heard of HEAT', 'heard of HEAT but not sure what it is about', and 'heard of HEAT and good idea of what it is about') across the three survey periods. As Figure 1 shows, familiarity was significantly higher in the post-test periods than in the pre-test period ($\chi^2=23.950$, $df=4$, $p=.000$). Just the same, there was still considerable ignorance of the project in the post-test period, with 72% of respondents still not having heard of the campaign by the final period. There were no significant age or gender differences. Interestingly, 13 respondents mentioned at least a degree of familiarity with Project

HEAT before it was implemented. This would suggest a small number of respondents were saying what they thought the researcher wanted to hear.

Figure 1 about here

The responses of participants who indicated some level of familiarity with the campaign in the post-test periods (n=83) were examined separately. Fifty-five percent of these respondents mentioned the television advertisement as the source of their awareness. Sixty-nine percent were able to offer a satisfactory description of the aim of Project HEAT. However, respondents were less able to recall prevention strategies recommended by the campaign. Only 41% could recall any specific prevention strategies promoted in the campaign. The majority of these respondents (62%) mentioned VIN etching.

The final component of the questionnaire gauged the level of active utilization of security precautions. Across all three surveys, 98% of respondents who drove a vehicle locked their doors, 42% used a steering wheel lock and 37% used a steering column lock. Table 1 shows a breakdown of specific security measures reported at each survey period. Chi square was used to determine whether the pattern of active use of security precautions changed over the three survey periods. The pattern of use changed significantly for only one security precaution -- steering column locks -- which decreased by over half between period 2 and 3 (63 to 30) ($\chi^2=21.323$, $df=2$, $p=.000$). This would appear a spurious result as steering column locks are a permanent fixture to the vehicle and one which cannot be removed. (A closer look at the figures suggests that respondents may have confused steering column locks and

steering wheel locks.) At the conclusion of the study period, only 8% of respondents had had their vehicles etched (VIN and other forms of etching combined).

Table 1 about here

VIN etching

Because etching was a predominant component of the publicity campaign, the RACQ database was used to further examine etching levels within the community. The RACQ database provided total numbers of etchings conducted by registered etching businesses. Table 2 shows the levels of vehicle etchings for the three months before and after the beginning of the HEAT campaign. There was a sudden increase in recorded etching coinciding with the introduction of HEAT at the end of March, with an overall 700% increase in etchings pre-HEAT to post-HEAT. Nevertheless, given that RACQ provided the major etching service in the State, the total number of cars etched would seem to be trivial when considered as a proportion of the total number of cars on the road.

Table 2 about here

Police statistics

An analysis was undertaken to determine whether Project HEAT had any effect on the incidence of auto-theft. Car thefts levels for quarter 1 and quarter 2 1996 were compared with trends for the same periods in 1997. A significant difference was

detected (chi sq=14.298, df=1, p=.000). From Figure 2 it can be seen that in 1996 there was an increase in auto-thefts from 1560 in quarter 1 to 1634 in quarter 2. In 1997 thefts fell from 1644 in quarter 1 to 1422 in quarter 2. In other words, in 1996 there was a clear upward trend in auto-thefts from quarter 1 to quarter 2, while there was downward trend for the same period in 1997. In addition, based on the auto-theft levels recorded in quarter 1 1997, the signs were for an increase in auto-thefts for that year compared with the previous year. From this result, it would seem that Project HEAT coincided with a marked reduction in the incidence of auto-theft.

Figure 2 about here

Discussion

Project HEAT was devised as a victim-oriented campaign. Such campaigns use advertising in an attempt to achieve two goals: to increase potential-victim awareness of the risks of auto-theft, and encourage subsequent preventive action. The present study found that while Project HEAT did significantly increase awareness over the study period, almost three in every four people surveyed after its launch still had not heard of the campaign. Moreover, self-reported use of the security precautions championed by the campaign did not significantly increase. Independent figures showed that there was in fact a surge in VIN etchings, but at total levels so low as to have little effect on the global picture.

Yet, in spite of these limitations, auto-thefts significantly decreased after the introduction of HEAT. Since it would appear that this decline in theft cannot be attributed to increased effort, reduced rewards or increased risk through target

hardening (i.e., increased use of prevention devices) the most likely conclusion is that the decrease in theft originated with the offenders themselves. In this scenario, the community awareness campaign may have created the perception that there was suddenly an increase in both the effort and risk, and a decrease in the reward factors associated with stealing vehicles. In other words, the campaign may have had a direct deterrent effect. As potential auto-thieves became aware that police were targeting auto-theft, they refrained from engaging in this activity. In short, it seems that HEAT may have got it right for the wrong reason.

It may be, of course, that the reduction in auto-thefts after the introduction of HEAT was a mere coincidence and is attributable to some other cause entirely. In applied social research of this sort it is not possible to conclusively rule out extraneous causation. However, the authors are not aware of any other factor which might account for the recorded reduction. It should be further noted that, unlike police statistics for many crime categories which often reflect levels of police activity as opposed to actual crime levels, figures for auto-theft are relatively reliable. Auto-theft figures are typically generated by victim reports, and reporting levels are high due to insurance claim requirements (Clarke and Harris, 1992).

The present findings recall Laycock's (1997) study on a successful property marking campaign. In this campaign, residents of a relatively isolated rural community were encouraged to both mark property and to display a decal advertising that their property was marked. Laycock found that thefts reduced across the board, that is, from both protected and unprotected houses. The publicity surrounding the scheme, she contended, alerted burglars that police were giving special attention to burglary.

Laycock concludes that 'it is probably as important to tell the burglars about the scheme as it is to tell the general public' (p. 238).

It might be argued, then, that it does not matter why HEAT worked as long as it did work. However, risk perception is likely to be an ephemeral phenomenon. Just as perception of risk increased in response to the media campaign, so too it is likely that perceived levels of risk will not be sustained once the campaign ceases. In contrast, the intended aim of HEAT was to institute permanent changes to vehicles which built in increased levels of security. An etched vehicle remains etched after the publicity campaign has finished.

In the light of this, the failure to make etching compulsory or to include incentives for compliance was a major failure of the campaign. Monaghan (1988) has commented on the difficulty of getting individuals to take responsibility for preventing theft. Moreover, previous research (Clarke and Harris, 1992; Mayhew et al, 1992; Webb, 1994) has highlighted the dangers associated with failing to implement a preventive measure on the total at-risk population: displacement to other less secure targets is a major potential problem. Because etching is a prevention strategy that can be easily evaded, when alternative targets remain in the population, unprotected vehicles are likely to be targeted. (Unfortunately, the QPS data did not record the presence or absence of etching when a vehicle was reported stolen and so the degree of protection VIN gave to individual cars could not be examined.)

While insurance companies and motorist groups were involved in the HEAT project, the present results suggest an even greater role for these organizations. There are not

only pay-offs from reductions in auto-thefts for car owners but for the insurance industry as well. Since etching is an effective strategy in not only preventing theft but also in increasing the probability of recovery, insurance companies would benefit from increased vehicle etching in terms of fewer claims. Tangible incentives in the form of lower insurance premiums for etched vehicles might prove more effective in inducing compliance than media campaigns built around fear.

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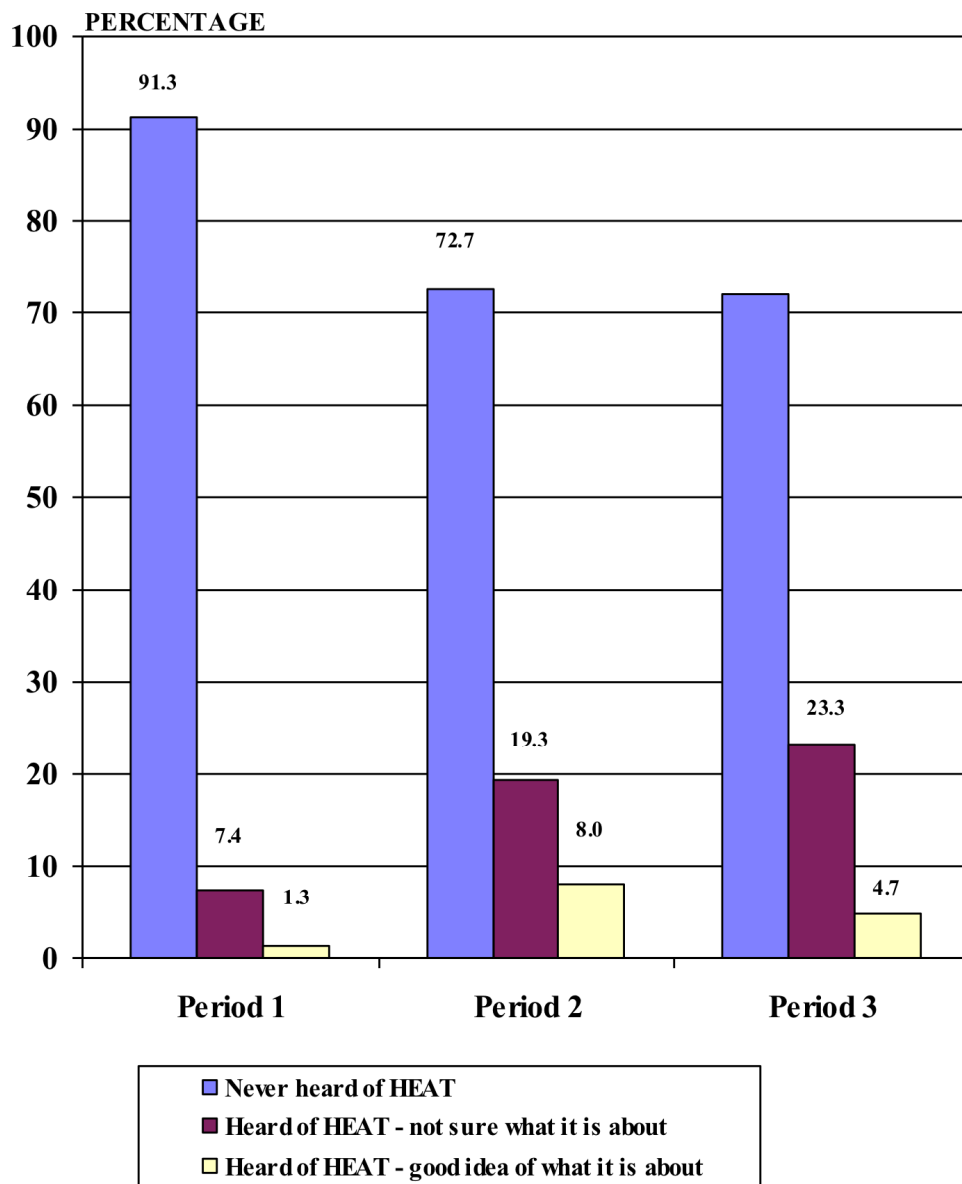


Figure 1. Familiarity with HEAT over the three testing periods (n=149, 150 & 150 respectively).

Table 1 Self-reported use of specific security precautions (as % of sample) at each of the three survey periods. (Multiple responses permitted.)

Security Precaution	Period 1 (n=149)	Period 2 (n=150)	Period 3 (n=150)
Lock doors	99%	97%	99%
Steering wheel lock	47%	29%	43%
Steering column lock	44%	44%	21%
Car alarm	7%	11%	11%
Engine immobilizer	8%	13%	9%
Fuel/ignition cut-out switch	5%	6%	8%
Etching -- registration	5%	8%	7%
Etching -- VIN	6%	4%	1%
Battery isolator	0%	2%	1%

Table 2 VIN etchings conducted by RACQ registered businesses, pre-HEAT/post-HEAT 1997.

Pre-HEAT			Post-HEAT		
January	February	March	April	May	June
10	41	53	145	325	237

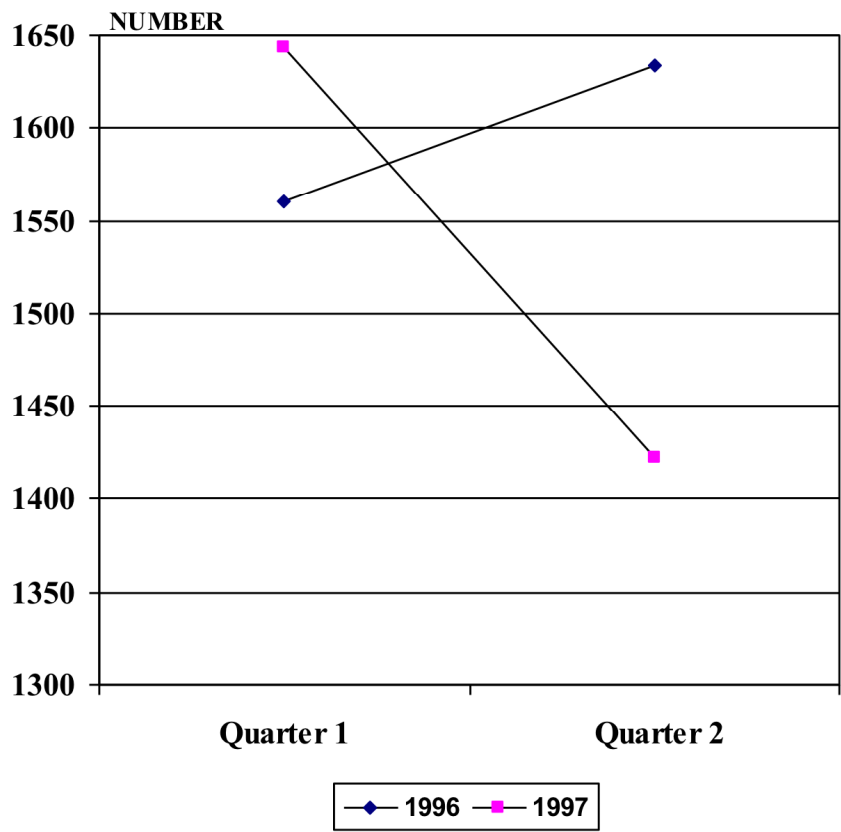


Figure 2 Total stolen vehicle counts (passenger cars only) for quarter 1 and quarter 2, 1996 and 1997.