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A FIELD STUDY INVESTIGATING BEHAVIOR CHANGE IN HIGH-RISK GROUPS

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A FIELD STUDY INVESTIGATING BEHAVIOR CHANGE IN HIGH-RISK GROUPS

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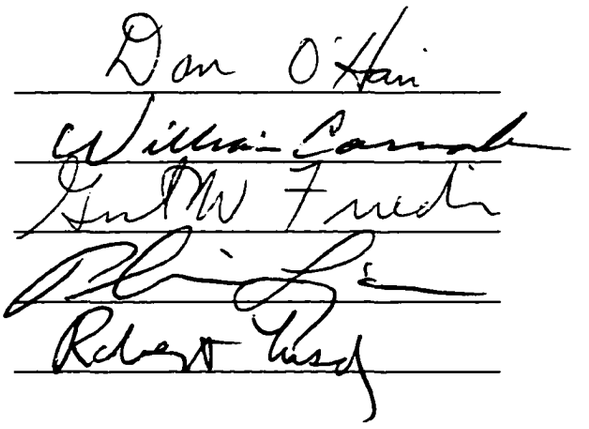

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Jayne, this is for you, my love.

Dedicated
To
My Grandmother

Bernice Norman Crockett, Ed.D.
(1908-1995)

Public health should not be viewed as a single unit of work which has taken place at a specific time or place. It must rather be viewed as a series of events which have occurred as a result of the needs of people among whom they have arisen.

Dr. Bernice Norman Crockett
From: *The Origin and Development of Public Health in Oklahoma: 1830-1930*
University of Oklahoma Press, 1953

Momma, we ain't never gonna get out of this Arkansas.

Observations of a small boy on a long trip.

A FIELD STUDY INVESTIGATING BEHAVIOR CHANGE IN HIGH-RISK GROUPS

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Abstract

This dissertation investigates the effects of a multidimensional planned social change campaign on high-risk behavior. The Oklahoma Zero Tolerance law, which provides sanctions to drivers under 21 testing positive for any level of blood or breath alcohol, provides an opportunity to examine the effects of a social change program. A public information and education (PI&E) campaign was executed and evaluated utilizing the Social Action Model of planned social change. Through the use of Oklahoma Department of Public Safety traffic records, this study examines the effects of these sanctions, when combined with targeted media, in the reduction of under-age alcohol-related traffic incidents. Specifically, this research investigates the impact on the problem of adolescent drinking and driving of behavior change strategies, grouped into the categories of persuasion, education and power. Results indicate a significant decrease in crash-involved 16-18 year old drivers judged having been drinking after the passage of the law and further reductions after the implementation of the PI&E. Implications of these results are discussed.

A FIELD STUDY INVESTIGATING BEHAVIOR IN HIGH RISK GROUPS

CHAPTER I

Review of Literature

Introduction

Societies face ongoing pressures to modify behaviors which they or their leaders deem harmful or destructive to the collective or to its individual members. It is common knowledge that harmful behaviors have and will continue to exist in our society while varying in type and magnitude. Theorists have attempted to explain and implement changes in these behaviors with differing levels of success. Taxonomies and theories based on how to facilitate a change or innovation throughout a social system, how to utilize the knowledge gained in the study of organizational evolution, and how to define and discriminate between "healthy" or "un-healthy" communities are but a few examples of planned change research aimed at modifying behavior.

One has only to think of the dramatic increase in blood donation in past years to understand the power by which awareness of an issue, brought on by effective persuasive message strategies, can have on a groups norms (Kotler, 1971). A person can reflect on the impact of educational programs such as smoking cessation efforts to appreciate the effectiveness of such programming on long term values shifts in a society (Fox & Kotler, 1980). An individual may measure the number of young lives saved through prudent coercive strategies (such as the minimum drinking age laws)

throughout United States for an example of an exacting and effective behavior change effort (Hingson, Scotch, & Mangione, 1985). By most measures, each of these efforts has been termed successful, yet none of them exist in a strategic vacuum. They all contain common elements.

A primary commonality is the mechanism by which these strategies are communicated. Often these mechanisms take the form of some type of organized communication campaign. For example, much of the success of North Carolina's "Click it or Ticket" seat belt campaign has been attributed to organized public information campaigning (Hingson, Howland, & Winter 1991). The outcomes of these campaigns are typically examined by some measure of behavior change in the target audience. In the case of the North Carolina campaign, observational pre and post tests measured seat belt usage from the initiation of the campaign through set points in its implementation to evaluate its success. Such campaigns have achieved a measurable level of success in relation to stated goals and have extended theoretical and practical knowledge in the field of risk communication

This dissertation approaches behavior change by developing and evaluating a theory-based planned change campaign targeting risk behavior. Through the use of a specific combination of persuasion, education, and power strategies, the author examines the impact of a risk communication campaign to reduce drinking and driving by youth under the age of 18. As the literature review will reveal, this is a significant social problem. Although previous communication campaigns have addressed this issue, few have conducted an investigation that examines the outcomes of a comprehensive campaign targeting this issue within this strategic audience.

Therefore, this dissertation first investigates adolescent drinking and driving (i.e., adolescence high risk behavior) then reviews behavior change strategies grouped into the categories of education, persuasion, and power. It then discusses communication campaigns (or interventions) that have used these behavior change strategies to reduce risk behavior. Finally, the results and implications of a comprehensive communication campaign based upon these principles are discussed.

Changing Behavior in High-Risk Groups

Behavior change in high-risk groups has been studied extensively across the social sciences (Beyer & Trice, 1978; Davies, 1979; Glanz, 1997a; 1997b; Hansen, 1992). Issues as diverse as teen pregnancy and literacy skills training have led researchers to investigate how to identify, develop, implement, execute, and evaluate successful behavior change programs that impact the most at-risk segments of the population.

Risk behaviors occur in social, cultural, developmental, and societal contexts and are particularly notable with youth (McLeroy, Bibeau, & Steckler, 1993). Generally, theories of youthful risk-taking consider the relationships between individual characteristics and social environmental contexts. They differ in specific definitions of risk and emphasis placed on internal versus external causation (Hovarth & Zuckerman, 1993). These theories also vary by the degree to which they embrace a common behavior versus unique behavior hypothesis and volitional versus non-volitional models of decision-making (NHTSA, 1995a). As diverse as these

perspectives are, many researchers are beginning to recognize that an understanding of the life-stage of the target is necessary.

Adolescent Risk Behaviors

Adolescence is often considered synonymous with risk-taking. In the face of rising mortality among young people that has a behavioral basis (e.g., injuries, homicide, suicide), researchers consider factors that define and determine youthful risk taking (NHTSA, 1995a). For some, risk-taking is seen as a set of volitional behaviors initiated during the teenage years that have major negative health and social consequences (Donovan, Jessor, & Costa, 1991; Irwin & Millstein, 1986; Jessor, 1992: Jessor & Jessor, 1977). For others, risk-taking is perceived as a means by which individuals meet their biological needs for stimulation and sensation (Hovarth & Zuckerman, 1993). Still others believe that while adolescents, as a group, may manifest high-levels of sensation seeking, risk-taking behaviors are not confined to a particular life stage. Thus, the associated behaviors relate to individual needs for stimulation throughout the life.

The common elements that exist across most theories of why people take risks must be taken into consideration when selecting a theoretical framework for an intervention program. Contemporary theories of youthful risk-taking consider both biological and psycho-social factors important in predicting risk-taking behavior. Pubertal timing, hormonal fluctuations, and genetics are studied in combination with self-perceptions, peer relationships, parenting styles, and other psycho-social factors in assessments of risk-taking behavior (NHTSA, 1995a). Research has shown that theories which only emphasize one aspect of human development fail to explain the

complexity of risk-taking behavior. Although research on biological factors relating to risk behaviors is beyond the scope of this study, research on psycho-social causation of numerous high-risk behaviors has led to further understanding of the complexities of these actions and the efficacy of methods for combating them. It is becoming increasingly evident that to effect change in one group, in a particular context, does not insure success with another group, performing a different behavior.

Traffic Safety, Alcohol, and Youth

A significant portion of adolescent and young adult morbidity and mortality takes place in the contexts of preventable risk behaviors (Igra & Millstein, 1993). One such risk factor is motor vehicle injuries which is the primary cause of death for Americans between the ages of five and 27 (NHTSA, 1995b). In 1995, 41,798 people died in motor vehicle crashes and the 16-24 year age group represented 24 percent of these fatalities, the highest rate of involvement in fatal crashes of all age groups (NHTSA, 1996).

Not only are motor vehicle deaths a pressing societal problem, motor vehicle injuries are a leading financial burden to our society. Rice, MacKenzie, and Associates (1992) report that motor vehicle injuries are the second largest category of both hospitalized and non-hospitalized injuries in the United States, costing $150.5 billion or the equivalent of $580 per person living in the United States in 1995 (NHTSA, 1995a). The largest component of this sum is a result of alcohol involved driving.

The use of alcohol has been implicated as one of the major causal factors in highway crashes and deaths (NHTSA, 1995b). In 1995, there were 17,274 fatalities in alcohol-related crashes. This is an average of one alcohol-related fatality occurring

every 30 minutes. NHTSA (1996) estimates that alcohol was involved in 41 percent of fatal crashes and in seven percent of all crashes in 1995. Thirty-two percent of all traffic fatalities occurred in crashes in which at least one driver or occupant had a Blood Alcohol Content (BAC) of 0.10 or greater—which roughly translates to the consumption of six or more drinks in a one hour period.

The impact on the youthful segment of our society is particularly alarming. Twenty percent of young drivers 15-20 years old who were killed in crashes in 1995 were intoxicated and over half of all drivers between the ages of 15-20 involved in fatal crashes survive (Felt, 1995). While all age groups have experienced a continual decrease in alcohol related fatalities over the last decade, as recently as 1994-95, youths, particularly young males, exhibited an increase in these deaths (NHTSA, 1996).

Males in general are more likely than females to self-report drinking and driving (NHTSA, 1993a). Males also comprise a larger share of alcohol-related traffic fatalities. Among 1993 crash victims ages 16 through 20, males accounted for 85 percent of all driver fatalities where the driver was found to have been drinking alcohol. Although male drivers have a greater share of the drunk driving fatality category, the relative risk of fatal crash involvement for young female drivers is almost twice as high as that for young males at BACs in the 0.05-0.14 range. This leads one to believe that although young females consume alcohol less frequently, they are at a greater risk of being involved in a motor vehicle crashes when drinking than their male counterparts (Zador, 1989).

These national trends are mirrored in the State of Oklahoma. In Oklahoma, alcohol use contributes significantly to traffic fatalities and injuries. In 1995, alcohol use was reportedly involved in 31% of all traffic fatalities and nearly 10% of all traffic injury crashes (Oklahoma Department of Public Safety, 1996). Nearly 40% of Oklahoma drivers between 14-18 years of age involved in crashes with fatalities were found to have consumed alcohol (Oklahoma Department of Public Safety, 1996). In 1995, seven percent of the total number of drivers killed in the State were under 18 years of age, a segment of the population which accounts for only slightly over three tenths of one percent of the Oklahoma's licensed drivers (Oklahoma Department of Public Safety, 1996).

Factors Contributing to the Risk of a Crash

A comprehensive review of the impaired driving literature identifies several factors that indicate why young drivers are over-represented in fatal crashes involving alcohol. These factors include but are not limited to:

1. a special sensitivity to alcohol by young drivers (Beirness & Simpson, 1987);
2. greater impairment of skills by younger drivers (Elander, West, & French, 1993);
3. the dis-inhibiting effects of alcohol on youth which perhaps induces a greater willingness to accept risk (Elander, West, & French, 1993); and
4. the personal and social characteristics of youth (Vegega & Klitzner, 1988, 1989).

In light of the above findings, it is not surprising that abuse of alcohol is considered the number one youth risk factor in the United States and remains a major area of social science research. Studies of high school and college age persons show that even as rates of other drug use has varied, and in some cases declined over time, alcohol use remains constant (Weschler et al., 1995). In 1990, the United States Surgeon General's Panel on Drunk Driving reported that drunk driving as a major public health problem affected youth disproportionately and suggested that targeted interventions were urgently needed. Among the 54 recommendations cited are:

1. The encouragement of comprehensive school-based K-12 alcohol and other drug abuse education and educator training programs of proven efficacy.
2. Endorsement of additional penalties over and above standard liquor law violations for those under age 21 with a 0.02 BAC or above.
3. Increased enforcement of DWI laws relative to youth.
4. Increased professional, public information, and education regarding youth.

Coinciding with these recommendations, more than 2000 related legal changes were passed in the United States in the late 1980's and early 1990's (NHTSA, 1996). Higher legal drinking age and "per se" (zero tolerance) legislation to increase convictions were among the most common changes. The drinking age is now 21 in all the United States and zero tolerance laws have been passed in more than 30 states. A fatal crash reductions of 10 to 15 percent have been attributed to these efforts (Hingson, 1992).

Although the study of these and other highway safety countermeasures has been extensive, the emphasis in this inquiry is on the impact of specific individual

strategies of change such as countermeasure effectiveness, public information campaigns, and educational programs. The behavioral characteristics of individuals at high-risk for hazardous behavior in these contexts has also been examined (e.g., Toomey, Rosenfeld, & Wagenaar, 1996). Less attention has been given to the efficacy of a general prevention strategy built upon a combination of three motivating forces to change: persuasion, education, and power (Carmack, 1994; Kotler, 1971). The study of the effects of a multidimensional highway safety campaign targeting both youthful drivers and law enforcement officers that includes these three strategic elements is needed.

The Oklahoma Zero Tolerance Law

On November 1, 1996, Oklahoma enacted legislation requiring that the Department of Public Safety direct law enforcement officers who suspect a young driver is driving or attempting to drive with alcohol in his/her system request a breath or blood alcohol test for alcohol concentration (see Appendix A). If the driver has any alcohol concentration, the officer can charge the driver with violating licensing restriction. Violators who are convicted can receive the sanctions outlined below in Table 1.

Table 1: Sanctions and penalties for violating a license restriction:

Sanction	1st Offense	2nd Offense
Fine	$100-$500	$100-$1000
Community Service	20 hours	40 hours
Treatment Program	Offender Pay	Offender Pay
Revocation of License	6 months or until 21	2 years or until 21

This new legislation provides the basic message for the campaign developed and evaluated in this dissertation, the general goal of which is to determine the

outcome of a public information and education program. This research will evaluate the recently enacted youthful drunk driving law and its associated public information campaign from a theoretical model of planned social change.

Intervention Strategies

Planned Social Change

Planned social change campaigns are not a new phenomena. Defined as organized efforts conducted by a group to persuade another group to "accept, modify, or abandon certain ideas, practices, and behaviors" (Kotler and Roberto, 1989, p. 6), social change campaigns offer potential solutions to a wide variety of social problems. From the campaigns to free slaves in ancient Greece to the present attempts to better our environment, change campaigns have appeared where strong opinion exists. Present day change campaigns that receive the greatest attention and resources have focused on health, the environment, education, and the economy (Kotler & Roberto, 1989). These campaigns have worked through various means with various degrees of success. This success seems dependent upon a number of general factors related to the particular behavior in question.

According to Rangan, Karim, and Bijawat (1991), behavior change is best thought of as existing on two axis. The first continuum, involvement, is the amount of effort that the target must exert to consider a change. For example, self examination of breasts takes less time and effort than attempting to exercise. Generally, it is easier to elicit change in low-involvement situations (e.g., self examination) more so than high involvement (e.g., exercise) (Rangan, Karim, & Bijawat, 1991). The second

continuum, target of change, refers to the extent to which change directly and tangibly affects the individual or benefits society. Attending college is of primary benefit to an individual and requires more than a one time commitment to change. Although this change is of benefit to society, the gain is secondary to that of the individual. Whereas, reducing the cfc's in our atmosphere is of primary benefit to society and of secondary benefit to an individual. As illustrated in Table 2, these factors provide primary input into the decision making processes of a target and provide a primary indication as to the ease or difficulty a change agent will face when attempting a change program.

Table 2: Taxonomy of Behavior Change

Behavior Change Primarily Benefits			
	Individual	Both	Society
	←------←--------	------←→--------	-------→-------→
Low Involvement	Sign up for Medicaid	Don't Litter	Blood Donation
	Self Breast Exams	Buy Bonds	Give to Charity
		Immunize Against Disease	
High Involvement	Go to College	Say No to Drugs	Family Planing
	Better Nutrition	Drive Safely	Curtailing CFC's
	Use the Library	Protect Against AIDs	
	Exercise	Quit Smoking	

Source: Rangan, Karim, & Bijawat, 1991

Since moving from low involvement to high involvement creates a high transaction cost for the change target, the task of the change agent becomes more difficult. This is much the same when observing the change in primary focus from the individual to the societal. It is much more tangible for a target to see a benefit from self breast examinations to reduce cancer risk than it is the reduction in cfc's. Therefore, the higher the involvement and the further away the gratification is from the individual, typically the more difficult the change.

This force or motivation toward a goal is based upon how much the goal simulates the individual (Weibe, 1951). Weibe (1951) labels this combined phenomena

as distance – the energy and cost required to change an attitude or behavior. The further the distance an issue is from a target, the more difficult the change.

The majority of successful planned change campaigns have fallen within the lower involvement, more individually focused issues. Broader social issues have been much more difficult to redress due to the need for high involvement/long term payoff.

In the instance of youthful drinking and driving, one has to look at both individual and society. Drinking and driving is considered by society as a risk behavior. Unfortunately, the individuals who typically perform this action are generally risk takers and what rational thought they possess is the first function to be compromised with the consumption of alcohol (Beirness & Simpson, 1987; Elander, West, & French, 1993). Combined with the social acceptability of alcohol in our society and the dependence on the automobile in our social fabric, youthful drinking and driving remains one of the more difficult high involvement problems affecting both the individual and society. This high involvement has led researchers to continue examination and theory building to address these issues.

Change Strategies

Theories abound that address *planned* behavior change. Most of these prototypes offer an analytical view of behavior change in that they provide general categories or steps in the change process. These categories provide for generalization of particular elements of an observed situation, but upon empirical synthesis are not readily identifiable as discrete and tend to overlap. This makes accurate delineation between them problematic although they are nonetheless useful as frameworks for conceptualizing change phenomena. These analytic distinctions are useful in the

process of theory building if they do not contradict experience. Three such analytic elements which have surfaced as useful reflections on reality are education, persuasion, and power.

Diverse labels have been given to these general procedures for *planned* behavior change. Chin and Bennis (1985) outlined three generally accepted categories: rational-empirical, normative-reeducative, and power-coercive. Based upon the positivist thought of Comte, Ward, Katz and the like, the rational-empirical position assumes individuals are rational and when provided with observable fact, an individual will act in his/her self interest and change. Normative-Reeducative strategies, in turn, build upon the belief that although individuals are generally rational, embedded in their motivational structure are sociocultural norms supported by attitudes and values. Following the works of Lewin, Freud, Follett and others, the authors contend that, "... changes in normative orientations involve changes in attitudes, values, skills, and significant relationships, not just changes in knowledge, information, or intellectual rationales for action and practice" (Chin & Benne, 1985, p. 23). The third strategy, power, is based upon compliance by those with less power to the will of those with greater power. Like the writings of their predecessors—Marx, Gandhi, Mills, and Thoreau—the understanding of negative and positive sanctions is the basis for there strategies.

Collectively, researchers label these elements as persuasion, education, and power. Because these elements may influence positive social change, each is examined in detail.

Education - Changing Values

Delineating between educational and persuasive programming is problematic. Heath and Bryant (1992, p. 123) state that:

> Persuasion theory and research deal with social influences – people communicating to affect one another and themselves. Society could not exist if people did not influence one another's opinions and behavior through discourse. Having said that, we could claim that all communication is social influence.... [S]ome social influence occurs so subtly that people do not think of it as persuasion. This is the case when people acquire norms, values, judgments, preferences, and behavioral intentions merely by adopting the idiom used by those with whom they associate.

This being the case, it is problematic to categorize social change and awareness programs as strictly persuasive or educational in intent and attain a comfortable level of accuracy. What is new or perceived as educational to one member of a social system, could be defined as persuasive by another member of that social system.

Strictly speaking, education is a strategy that attempts to induce the desired behavior change in the change target through the internalization of *new* beliefs or values (Kotler, 1971). This view posits that people will change if presented with new information which, rationally, appeals to their well being. In the case of changes in risk behavior, this approach contends that if people are provided with new information about how to protect their health, they will find out that certain behaviors are harmful and change their behavior accordingly.

Education is the slowest of the three change strategies and is dependent on the change target's desire for innovation, which is motivated by complacency, shock, or need (Carmack, 1994). The insistence that an individual change his/her values is similar to asking the individual to become someone else (Zalenik & Moment, 1964).

This process, however, may be facilitated by targeting the:

1. relative advantage to the individual in adopting innovation,
2. compatibility of the innovation with the individual's existing behavior and attitudes, and
3. degree of difficulty in terms of value changes necessary for adoption (Hahn, 1974).

These changes act to reduce the discrepancy between a target's values and/or ideology and a current state of affairs (Lewin, Schein, & Kennedy, 1986). Any changes are characterized by a slow rate of penetration. However, they become a part of the target group's value system and, therefore, are rigidly embraced.

Educational programs are important in providing the public with knowledge about drinking-and-driving in general. There exists misinformation about alcohol which is dangerous and supportive of harmful behaviors. For example, Wallack and Worden (1981) found that many young males believe that consuming three beers equaled one shot of liquor. It was likewise misperceived that the consumption of a six-pack of beer would still allow for safe driving behavior. High-school students are no exception to this trend. In a 75 school sample survey, it was estimated that the consumption of six or more cans of beer was required to make someone an unsafe

driver (Williams et al., 1983). Education is crucial in imparting correct information about these issues.

Generally, programs which have not been successful in initially changing attitudes or behaviors have produced knowledge gains (McKnight, 1987). While it is not the case that such knowledge gains are immediately translated into action, they certainly provide a basis for corrective action.

Persuasion: Changing Social Norms

Persuasion strategies generally attempt to induce a desired behavior change by appealing to existing beliefs or values, and making the target aware of its utility (Kotler & Roberto, 1989). Research suggests that change is more successful if an innovation is compatible with existing beliefs and norms (Bennis, Bennie, & Chen, 1985; Rogers, 1995). Theorists in the normative tradition depart from the rational actor model and embrace a more bounded view of humanity's rationality. These theorists viewed an individual as an active participant in his/her world, and believe that addressing norms is a necessary prerequisite to shifts in behavior.

Persuasive strategies rely on appeals to internal needs in order to effect change. An attempt is made to find arguments showing that adoption of the change serves the interests of the change target (Carmack, 1994). These strategies act to highlight discrepancies and contradictions between a state-of-affairs and the logic, emotions, and/or norms of a target. They are designed to convince targets that the particular change is the socially acceptable thing to do (Weber, 1905). They are also designed to lower a group's resistance to change by encouraging a group's identity (Weber, 1905).

These strategies do not attempt to change values, instead they utilize existing ones through identification (Kotler, 1971).

Smoking cessation campaigns and other strategies that re-frame an issue as a serious public health problem with high societal and financial costs are examples of this strategy. A representative model of this type of strategy is the health belief model. The health belief model posits that if people think they are susceptible to a harmful condition and a preventable activity may be effective in reducing the likelihood of negative outcomes, they will adopt the preventative behavior (Weber, 1905). However, as has been found in the anti-smoking campaigns, although behavior has changed, persistence remains, leading one to conclude that the social pressure or general normative acceptance of change alone are often not enough to change behavior.

A wide variety of persuasive public information/mass media campaigns attempted to reduce drinking and driving. According to the National Highway Traffic Safety Administration (1995b), there is little evidence to show that these campaigns change either attitudes or behaviors. Evidence suggests that one reason why many of these programs have been unsuccessful is the relative lack of sophistication in applying behavioral change principles (Bloomberg, 1992). Such programs must combat social forces including the continuing onslaught of alcohol advertising which act to normalize and legitimize alcohol consumption, thereby shaping behaviors of children beginning in elementary school (Grube & Wallack, 1994; Madden & Grube, 1994).

It is clear that social norms regarding drinking and driving have changed in the last two decades (Williams, Zador, Harris, & Karpf, 1983). For advocates of these

programs, it is clear that although individual persuasion campaigns do not produce any measurable short-term effect on behavior, they are necessary prerequisites for the mix that contributes to long-term behavior change.

Power Coercive Strategies.

Power-coercive strategies seek to utilize the imbalance of power to influence the process of change by the threat of punishment and forced compliance (Berger, 1994). A power strategy produces behavioral compliance or cooperation through the use of sanctions. Change agents who resort to power are primarily concerned with changing behavior rather than beliefs or values (Kotler, 1971). Although sanctions may be demonstrated through the threat to withhold reward or to issue punishment, they may be positive in the form of affirmation and rewards. Positive sanctions, as opposed to negative sanctions, can be very effective at impacting social change. Unfortunately, when taken alone, the sanction requires surveillance for compliance (Carmack, 1994).

The most significant behavior changes which reduce motor vehicle related injuries have come through the enactment and application of federal and state laws (Hingson, Heeren, Howland, & Winter, 1991; Hingson, Heeren, & Morelock, 1989). Those which produce the most success are readily observable and measurable (Ross, 1984). For example, the utilization of seat belts, motorcycle helmets, and speed limit enforcement are all issues which provide quantifiable and observable outcomes. When laws pertaining to these issues are introduced, the effects on the relevant behavior have been immediate and significant (Williams et al., 1983). Unfortunately, alcohol-involved driving does not fall into this category and is not easy to measure, combat, or

identify. Nevertheless, administrative license revocation, minimum purchase age laws, and other related laws have had demonstrable effects in reducing this behavior and/or its consequences (Zador, 1989).

Lowering the legal blood alcohol level for drivers under the age of 21 has been one strategy used to address this issue. Thirty states and the District of Columbia have lowered their legal limits prior to 1996. Higson et al. (1994) found that states that lowered the blood alcohol level for youth experienced a 16 percent decline in fatal night-time crashes involving single vehicles, while controlled states experienced a one percent increase. "Those states with a 0.00 limit showed a 22% reduction in the proportion of fatal crashes among adolescents that involved single vehicles and occurred at night" (Lacy, Steward, & Machetti, 1990, 33). Thus, in states that lowered legal BAC's for adolescents to 0.00% or 0.2%, the decline in the proportion of fatal crashes that involved single-vehicles at night involving adolescents is at least 20% greater than shifts observed among same age youth in comparison states (Lacy et al., 1990).

Unfortunately, the effectiveness of many of these legislative efforts has been undermined by the passage of laws with less punitive sanctions (Hingson, 1992). It is in these cases that the perception of strong enforcement, apprehension, and prosecution offers promise for the enhancement of the beneficial effects of these sanctions.

Perceived Risk of Drinking and Driving Arrest

Perceived risks of driving while intoxicated (DWI) detection is the level of risk perceived by drivers and passengers about the probability of being stopped by the

police for drinking-and-driving. The basis for this component is deterrence theory (Beyledeld, 1979a; 1979b; Gibbs, 1975). Deterrence theory states that the rate of crime varies with certainty of detection and punishment. The key intervening variables between detection and punishment and the crime rate (DWI offenses) are the perceived probability of detection, severity of sanction, and specific outcome measures. The general validity of this theory in relation to alcohol safety laws has been demonstrated in a series of studies in naturally occurring variations reviewed by Ross (1984) and Homel (1988). Studies of legislative changes in enforcement programs provide clear evidence that the perceived risk of apprehension and not the actual probability of being at risk determines the level of deterrence (Ross, 1984; Williams & Lillis, 1986). It is the perception rather than the reality of the risk detection which is significant to deterrence. Some studies have found that drinking and driving can be manipulated through publicity alone (Lacy et al., 1990). However, publicity alone rarely produces long-term changes in safety behavior (Wilde et al., 1971).

The best understanding of deterrence effect can be seen as an interaction between mass media information and the personal experiences of drivers. Ross (1984) noted that the public was initially led to believe that the probability of being tested for alcohol and arrested was much higher than it proved to be in his report on the British Road Safety Act of 1967. It seems reasonable to ascribe gradual learning by United Kingdom drivers of an overestimation of the certainty of punishment under the law which led to an increase in recidivism. A study by Boas and House (1997) found that an increase in the California Publicity Enforcement Program produced more coverage

from local papers and electronic media during this initial implementation in the progressive equation than during the publicity phase to quantify the claim. Subsequent to the publicity phase, the driving public was left to test the expectations with actual contacts with police officers. This led to a 15% increase in the number of individuals who passed the field sobriety test (pass rate) after the publicity phase. Sanctioning provides support in reducing these rates but is accentuated by public information.

Summary

As this review indicates, these three general strategies of intervention facilitate behavior change in high risk groups and provide the bases for most generally accepted planned social change models. Each strategy alone rarely produces lasting results. However, most generally accepted planned change strategies utilize the elements described below in Table 3.

Table 3: Elements of Strategies

Strategy	Requirements	Basis of Appeal	Outcome	Shortcomings
Persuasion	Social reinforcement Motivated Externally	Desire to belong	Identification	Potentially short-lived
Education	Client Motivated Time	Personal Values	Internalization	Costly Long-term
Power	Surveillance	Expectation of Reward or Punishment	Compliance	Perception of Reward/ Punishment

Source: Carmack, 1994

Theories of Community Health Intervention

To understand health behavior change, one must understand the function of groups, organizations, and larger social units. Focusing on a population, not just individuals, is the most effective means for reducing or eliminating risky behavior (Goodman, Steckler, & Kegler, 1997).

A community's well-being is constrained by the physical and the social environment. According to Glanz (1997): "both social and physical oriented programs require an understanding of how social systems operate, how change occurs, and how community and organizational changes influence people's behavior and health" (p. 237).

Health intervention theories are generally designed to assist professionals in understanding the health behavior of groups of individuals and assist modifying long-term behaviors. These models propose that interventions on behavior and environment must be tailored, targeted, implemented, and evaluated on a systematic basis if they are to be effective. In the following paragraphs, three strategy archetypes utilized in community health are discussed: diffusion of innovation, organizational change/development, and community development and community building.

Diffusion of Innovation

Diffusion study has developed from research that identifies predictable patterns of change adoption among various population groups (Green, Gottlieb, & Parcel, 1987). Diffusion is a type of social change, and is the process by which alterations occur in the structure and function of a social system (Rogers, 1983). Diffusion is also

the process by which innovation is communicated through certain channels over time among social system members.

Bauer and Wade (1982) define diffusion of innovation as "the process by which innovation spreads among members of the social system" (p.195). Rogers (1983) defines an innovation as an idea, practice, or object that is perceived as new by an individual or other unit of adoption. Innovation is key. Innovation is new. It is this perceived newness that determines one's reaction to the innovation.

The process of innovation has five main elements. First, knowledge occurs when an individual is exposed to an innovation and begins to understand how it performs. Second is persuasion which occurs when an individual forms a favorable or unfavorable attitude toward the innovation. Third, a decision occurs when an individual engages in an activity to adopt or reject an innovation. Fourth is implementation which occurs when the innovation is utilized. The fifth is confirmation which occurs when one seeks to reinforce the previous innovation decision.

Adoptive categories are the classifications within which individuals are ranked based on the time frame of their responses to the innovation. Roger's (1987, 1995) five categories are: (a) innovator; (b) early adopter; (c) early majority; (d) late majority; and (e) laggard. The final specific means by which time is involved in the diffusion process is the rate of adoption or the relative speed within which an individual or unit adopts the innovation.

Opinion leaders and change agents are two elements from which to study diffusion. An opinion leader has some degree of influence over other's attitudes and behaviors. Research has found that within change-oriented social systems, opinion

leaders become quite innovative. Opinion leaders work within a network. A communication network is a collection of interconnected individuals who are linked by pattern flows of information (Rogers, 1987 p. 28). A change agent influences client's innovation decisions in a direction deemed desirable by the change agency.

Public Health Applications

Numerous studies have utilized the elements of diffusion in a public health setting. The Fresh Start Program was a diffusion based cardiovascular decrease education program developed in Australia. A three stage model of preparation, action, and maintenance was developed. This program was developed using elements of Social Learning Theory (Bandura, 1986) and was disseminated by primary care physicians using print and video-based materials. Results of the program indicate that high risk males were the most likely to move from a consideration stage toward a preparation stage in changing risk behavior (Graham-Clarke & Oldenburg, 1994).

The relative parsimony of diffusion theory has led to a change in status from what Fliegel and Kilvin called in 1966 a bastard child too big to ignore but unlikely to be given full recognition to one of the most researched areas of social science (Rogers, 1995). This is particularly evident with the adoption of the tangible, such as technological innovation (Rogers, 1986). However, diffusion campaigns developed for the less tangible change of behavior have produced fewer successes. This is in part attributed to the complexity of behavior change when compared to the adoption of that which is tangible. However, as illustrated in the example above, successful diffusion is becoming more likely when combined with other methods, strategies, and practices such as those discussed below (Oldenberg, Hardcastle, & Kok, 1997).

Theories of Organizational Change and Development

Society is a composition of organizations. Organizations are composed of many inter-related strata. Because organizations may be accessed and influenced at many interactive levels, no one theory succeeds in explaining, predicting, and controlling the phenomena of organizational change. Based upon this premise, organizational change and development theories target several levels within an organization in pursuit of more effective results (McLeroy, Bibeau, Steckler, & Glanz, 1993). Although numerous theories of organization change exist, two representative frameworks reviewed below are stage theories and organizational development theories.

Stage Theories.

Kaluzny and Hernandez (1988) state that stage theory explains how organizations develop new goals, technologies, programs, and ideas. Based on the work of Lewin (1951) and Rogers (1983), stage theory attempts to provide a taxonomy of the stages by which an organization (or individual or larger social unit) moves through the change process. Beyer and Trice (1978) borrowed heavily from John Dewey's (1910) work, *How We Work*, which documents basic steps in planned decision-making processes. They identified seven stages: sensing unsatisfied system demands; searching for possible responses; evaluating alternatives, decision to adopt a course of action; initiation of action within the system; implementation of change; and institutionalization of change.

Organizational Development Theory.

Organizational development theory focuses primarily on the human and social aspects on organizations and views the organization's behavior as the coordination of goal-directed activities of its participants (French, Bell, & Zawacki, 1989). Outgrowths of Weber's (1911) work, the Hawthorne studies of Roethlisberger and Dickson (1939), and research by Argyris (1957) and MacGregor (1960), these theories assume that organizational effectiveness is influenced in a large part by participants' motivation. These theories are generally divided into process theories and implementation theories. Process theories specify the underlying dynamics of change, while implementation theories concern the activities to produce change (Goodman, Steckler, & Kegler, 1997). Implementation theories provide broad implementation strategies which describe how factors effect change within an organization. Procedure theories identify sequences of change-producing activities, whereas technique theories denote activities by which the organizational change process may progress (Goodman et al., 1997; Goodman & Wandersman, 1994).

Public Health Applications.

Numerous public health intervention programs have utilized organizational development theories to influence and understand health promotions. The National Cancer Institute funded a project in 1987 which utilized a four-stage model combined with organizational development theories to measure the institutionalization of smoking cessation programs into school (Goodman et al., 1991, 1997; Smith, Steckler, McCormick, & McLeroy, 1995). The program revealed that organizational development techniques are effective if used during different project stages.

Theories of Community Organization and Community Building

In the late 1800's, the term community organization was coined by American social workers to describe their efforts to assist immigrants and the poor (Garvin & Cox, 1995). Early approaches emphasized collaboration, consensus, and cooperation to help self-identify and increase problem-solving skills (Garvin & Cox, 1995). These strategies were utilized to address larger social change objectives such as anti-war protest, civil rights, and the women's movement. Since the 1970's, health practitioners adopted these principles and have further defined it as a viable area of inquiry. The term community has been defined by Hunter (1975) as functional spatial units which meet the basic need for sustenance, units of patterned social interaction, or symbolic units of collective identity. Programs based upon this model stress the need to start at the grass roots level, encourage participation, empowerment, and problem-solving skill-building.

The best known models of community building are identified by Rothman (1987) who stated that community organizations consist of three general models of practice: locality development, social planning, and social action. Locality development is defined as the process-oriented approach to building group identity. Social planning is seen as the rational act of problem solving. Social action is viewed as both the task and process-oriented approach to re-balancing power within societal groups (Alinsky, 1969; 1972). These approaches to community development have been the dominate framework by which researchers have evaluated and understood community building and tend to be driven by outside change agents intervening within a social group.

Walters (1997) suggested new models of community building which borrow from Rothmann's but emphasize further self-help and collaboration. These models take the internal community-driven approach to needs assessment where the concerns of the community lead to the action taken, rather than the concerns of an outsider.

Several models of community organizing and building have surfaced which complement the earlier community action models. These models have provided a high-degree of efficacy along with a strong philosophical fit with community health practitioners and researchers (Glanz, 1997). Various community-based interventions have been developed for many public health problems, ranging from heart disease prevention to health promotion (Johnson & Solis, 1983; Perry, 1986). Community-based efforts are also being supported for the prevention of alcohol and other drug-related problems. Examples are the NHTSA Safe Communities Program, a community-based approach which addresses motor vehicle crashes as well as injuries and costs within the context of the entire injury problem through integrated and comprehensive injury prevention programs. These programs utilize analysis of injury data, citizen input and involvement, and expanded community partnerships. The Center For Disease Control's Healthy Communities Program is based on the same model which targets general healthy living issues. These programs make assumptions that there are multiple causes for drug abuse and that prevention efforts focused on a single system will probably fail (Benard, 1990).

Community building approaches provide a useful representation to practitioners, but have several limitations. In Rothmann's case, the term locality development can be viewed as restrictive, geographic, and limiting. Social planning is

viewed as externally driven, or problem-based rather than strength-based and community-driven which reduces the probability of long-term success (Walters, 1997).

Many recent models have begun to address these concerns such as Braithwaite, Bianchi, and Taylor's (1989) Community Organization and Development model. This model involves facilitating the development of effective community controlled boards while still recognizing the need for external participation. Still these models have proven a slow method of long-term reduction of high risk behaviors.

The Social Action Model

No single theory of community organization fits perfectly to health promotion (Bracht, 1990). Theories derived from a single intervention model or from within only one level of social structure (individual, group, or organizational) have inherent limitations in overall efficacy (Glanz, 1997, p. 466). Research suggests another approach—the Social Action Model—by which media campaigns, social or policy sanctions, and positive peer relations are identified as influential factors contributing towards a campaign's success. These factors are used in developing, implementing, and evaluating change campaigns. This research structure provides strong theoretical and empirical rationale for the systematic development and analysis of planned social change programs and warrants further discussion of its specifics.

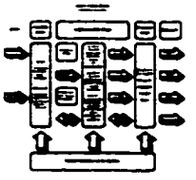
Carmack (1994) created a taxonomy for the development, implementation, and evaluation of a planned change campaign. The Social Action Model illustrated below is a community-wide, systems approach to the planned social change process. This model utilizes elements from planned community change, e.g., diffusion of innovation and organizational development to capitalize upon the beneficial elements of each of

these theories. It also addresses the shortcoming of each in developing planned change programs (Carmack, 1994). The basis of the model is that the planning of a change strategy can improve the probability of success by utilizing (in tandem) all three strategies for non-violent change discussed in section one: persuasion, education, and power (Carmack, 1994). The premise behind this model is that, like diffusion, the adoption of innovation within a societal context is dependent on adoption of innovation by an individual. However, adoption—as pointed out in much of the organizational change literature—can be facilitated at numerous levels of intervention: the individual, the group, and the larger social unit.

Abrams et al. (1997) remark that part of the problem with health education is that it lacks a common core of universal principles about human behavior. Moreover, the authors contend that creating a new taxonomy for the implementation and testing of a theory is another step toward coherent theory building. The Social Action Model provides a convenient taxonomy for implementation. It provides a theory-based structure relevant to adolescent drug use. The social action model provides a logical taxonomy within which to systematically attempt this change.

The Social Action Model (see Figure 1) of communicative behavior is not contextually bound. The generality of the model allows for its use in multiple contexts and provides a taxonomy for the planning (sub-system one), implementation (sub-system two), and resolution (sub-system three) of a planned social change program.

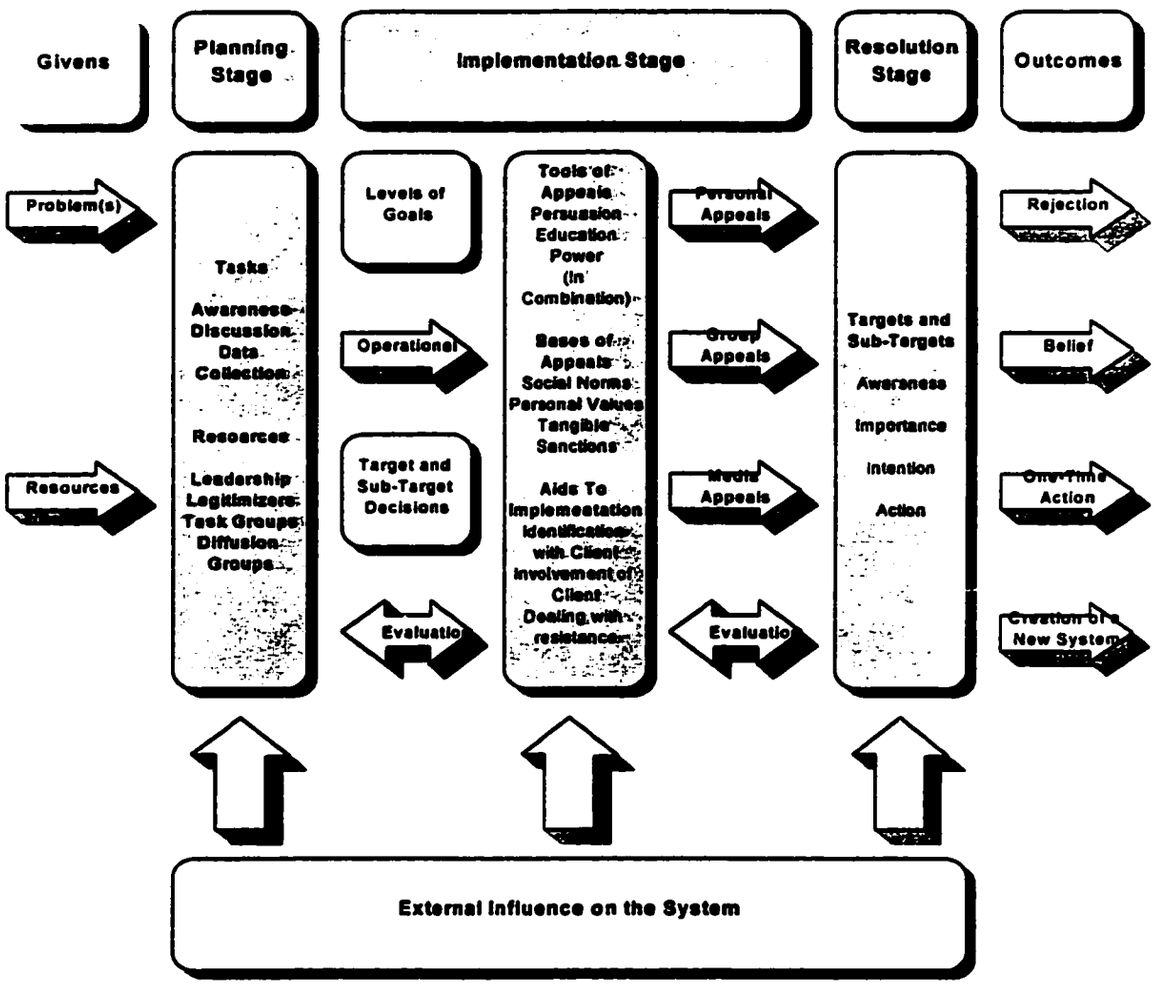
Figure 1 - The Social Action Model



This model assumes individuals have a desire to either grow (accept change) or maintain identity (resist change). Both forces are continually at work, however, and at any given moment, one is stronger than the other (Carmack, 1994). Change begins with the identification of a problem or the experiencing of a need by an individual or group. It continues with the development of a resource base with which to further identify and address the specific problem and the means by which practitioners develop a high-level of confidence that they have not overlooked a useful and perhaps necessary stage in the planning, implementation, or evaluation of the program plan.

Disseminators of change fall into two general categories: mass media and individuals. Mass media sources include any form of communication which allows an individual to communicate with large audiences. Interpersonal sources are those which allow face-to-face communication between two or more individuals. Interpersonal local sources of information are direct communication contacts transmitted by the message communicator that conform to the receiver's socially structured beliefs. The positive nature of the relationship facilitates a stronger probability of message acceptance. The drivers of these efforts are the change agents. Change agents carry communication from outside the social system of an individual or from within the individual's current social system.

Social Action Model
(A Systems Approach)



The introduction of new information into an existing social structure or organization (such as early drivers or high school students) is directly related to message interpretation by internal networking entities, the individuals who are members of these structures, and their various societal networks. Communication of a message to all components of the system is part of the decision-making process.

The underlying goal of any attempt to affect change is to facilitate an individual's ability to seek new information, understand possible alternatives to the status quo, and translate conclusions into the acceptance or rejection of innovation.

In the implementation phase, the change agent utilizes input from the problem identification phase with goals and resources defined and selected. Communication appeals are the bases of this phase with selection and implementation of strategies as its goal. As previously discussed, there are three strategic bases in any non-violent change program: persuasion, education, and power. This model utilizes all three strategies. The first, persuasion, is the short-term strategy of bringing to the attention of a target of change an existing value or belief and capitalizing upon its normative appeal to the target audience. The second, education, is the introduction of new or perceived new information to the change targets with a goal of value change. The third, power is the interdiction of power-based limits into the behaviors of the target. The benefit of this triadic marriage is the expected effectiveness in producing desired change in the target population.

A further understanding of the outcomes and efficacy of planned social change concepts is needed. This is particularly true in problematic areas that require high involvement from the target. The empirical testing of the Social Action Model in this context presents the opportunity to further theory as well as provide support for public policy interdiction and continued funding of educational and persuasive programming. To this end, this research investigates the effects of a specific change in law that utilizes potential punitive sanctions for offenders. By utilizing the new zero tolerance laws in the State of Oklahoma, this research will investigate whether the perception of deterrence (once the target audience is educated about it) will have a positive impact on the drinking and driving behaviors of youth.

Numerous studies have analyzed the effects of planned change campaigns. Yet few have reported significant behavior change involving this specific type of problem. In the case of traffic safety, while some research has investigated the deterrent effect of public information and education (PI&E) programs when actual punitive sanctions have been implemented, to date no study has yet measured the effect of PI&E when optional sanctions or the perception of sanctions are brought to the attention of a target audience.

In the context of the Social Action Model, this study evaluates the change in number of alcohol-related traffic crashes at three points in time: the pre-zero tolerance law period, the post-zero tolerance law period, and the post-zero tolerance law with PI&E period.

Generally speaking, research has shown that laws aimed at alcohol-impaired driving are effective in changing behavior (Bloomberg, 1992; Hingson et al, 1989; Hingson et al, 1983; Hingson et al, 1991; Hingson et al, 1994; Hingson et al, 1982). Alcohol education and public information programs alone, by contrast, rarely result in short-term behavior change although they may produce minor short-term changes in traffic safety knowledge (Bloomberg, 1992; Hingson, 1991). Those who contribute most to the problem have characteristics that make them less susceptible to behavior change through educational programs (Vegaga & Klitzne, 1988). However, education and public information programs have an important role to play in combating alcohol-impaired driving. They can provide support and impetus for passing laws, and for transmitting knowledge about the provisions and penalties of laws in ways that increase their deterrent effect and generate public support for law enforcement programs.

Hingson (1991) and Bloomberg (1993) reported that public information and education can significantly increase the deterrent effect of a law with stated, inflexible consequences. In Maryland, the State Assembly passed punitive zero tolerance legislation that mandated license revocation for a period of time in the event that any amount of alcohol was found in the individual's system. A public information and education campaign dramatically enhanced this law's effect (Bloomberg, 1992).

As discussed above, the combination of the strategic elements identified in the Social Action Model will be used based on recommendations of previous research in the area (Moskowitz & Higson, 1994). By combining the strategies of persuasion, education, and power into a systematic research-based public information campaign,

this research will investigate the change in youthful alcohol-involved traffic offenses under the new Oklahoma zero tolerance law.

Campaign Development

Vegega & Klitzner (1988) identified several factors that appear to contribute to the success of risk management programs. First, different types of programs appeal to males and females. Males are more receptive to information about enforcement, while females are more interested in learning about the influence of drinking on relationships. Second, programs with groups in which participants have different levels of alcohol use are more successful than programs that segregate participants into groups according to level of alcohol use. Finally, the authors concluded that broad-based community support facilitates the effectiveness of prevention programs (Vegega & Klitzner, 1988). As a result, the preliminary campaign development goals were to provide enforcement information as well as inter-relational information in developed messages, delivering the messages in a forum which provides some cross-section of alcohol users, and providing reinforcing messages to other community members, – in this instance, law enforcement officials.

According to Witte (1995), fear appeal responses can be analyzed on a continuum from danger responses to fear responses. The Extended Parallel Process Model (EPPM) which Witte employs states that when people are faced with a threat, they either control danger or control their fear about the danger (Witte, 1994). When the perception of threat and efficacy are high, "an individual is motivated to control danger by following recommendations. When a perceived threat is high but efficacy is low, individuals are motivated to control their fear by rejecting the recommended

responses through defensive avoidance or denial of the threat" (Witte, 1995, p.1). As a result, danger-oriented messages are indicated when a target is more oriented toward denial and other coping mechanisms in order to discount the fear messages, while fear appeals are indicated when the group has a conscious awareness of the danger of a particular activity, can benefit from reinforcement of their perception of severe risk of the activity, and are susceptible to the reinforcing nature of a fear-oriented message (Witte, 1994).

In the case of the 16-18 year age group, studies have found that messages which make individuals perceive that they are susceptible to a severe threat are more likely to motivate those individuals to act (Witte, 1995, in press a, in press b). In the case of youthful drinking-and-driving, the most commonly identified threat to youthful drivers are: loss of driving privileges, perception of arrest, economic cost, and peer approval. When targeting the Oklahoma law enforcement community, greater emotional, fear-based messages were employed to supplement this youth campaign. These form the two basic themes of the PI&E campaign.

Rationale and Research Questions

This field study is based on the following three objectives: (a) to conduct an evaluation of the Oklahoma zero tolerance law for drivers under the age of 18 as it existed during the first six months of its life, using alcohol-related crash involvement as the primary evaluation measure; (b) to develop and mount a PI&E campaign to measure any enhancement of the operability of the zero tolerance law by making knowledge of its existence and the consequences of violating it more widespread; and

(c) to evaluate the extent to which the PI&E enhanced the effects of the zero tolerance legislation, and continue with follow-up PI&E in target areas.

The study's activities can be summarized as follows:

- Pre-sanction - time period prior to the effective date of the zero tolerance legislation.
- Pre PI&E - time period after the effective date of the zero tolerance law, but prior to the effective start date of the public information and education campaign.
- PI&E Campaign - the evaluation design involved the analysis of traffic accident data. The investigator created informational materials dealing with the alcohol license restriction and disseminated them through selected counties.
- Post PI&E - time period after the effective start date of the public information and education campaign.

Previous research has indicated that with the passage of new traffic safety laws, significant deterrence effects have been measured, – even in the absence of any concerted informational campaign (Hingson, 1990). Therefore it is predicted that:

H_1 *Implementation of a legal deterrent will significantly reduce risky behavior*

Since previous research suggests that risky driving behavior decreases with the implementation of a new law (Bloomberg, 1992), this study offers the opportunity to examine whether a campaign based upon a particular perception-based law will

demonstrate a pattern of reduced risk behavior in the target group. It is therefore predicted that:

H2 ***A public information and education campaign in support of a legal deterrent will significantly reduce high risk behavior.***

CHAPTER II

Methods and Procedures

The purpose of this dissertation is to describe the relationship between a public information campaign developed based upon the Social Action Model of planned social change and the high risk behavior of youthful drinking and driving. Through the use of Oklahoma Department of Public Safety traffic records, this study examines the effects of sanctions, when combined with targeted media, in the reduction of under-age alcohol-related traffic incidents. The two hypotheses outlined in Chapter One are tested in the following manner:

Participants

The population to be examined is licensed drivers 16 through 18 years of age who have been involved in traffic crashes on Oklahoma highways and interstates. A census of all had-been-drinking (HBD) crashes involving Oklahoma State Troopers was collected for the time period. Six hundred eighty six HBD drivers were identified for analysis in the 45 months from January, 1994 through September, 1997.

Design

Dependent Variable

In order to measure the effects of the new law and the law combined with the campaign, some measure of alcohol involvement, drivers age, and crash data was required. In the state of Oklahoma, the only consistent quantitative alcohol measures for drivers are fatality reports. In the under-nineteen age group, this sample is deemed

too small for meaningful analysis; therefore a surrogate measure has been chosen. Based upon the work of Bloomberg, Preusser, and Ulmer (1987), the investigator chose a surrogate alcohol measure of direct assessment of the investigating officer.

The Oklahoma Crash Report includes an assessment of driver condition at the time of crash and either quantitative measurement of driver BAC or qualitative measures such as officer's judgment based on evidence at the scene of a crash. Bloomberg (1992) considers these measures conservative and attributes any officer bias to be in the direction of a false negative, or the underestimation of the effectiveness of the sanctions. To further increase the reliability of the sample, the investigator has chosen to analyze only crashes reported by Oklahoma Highway Patrol Officers (OHP) due to their uniformity in training, reporting, and evaluation skills. In addition, the HBD measure is available for every accident the OHP reports regardless of demographics. Therefore, the total number of crashes involving 16-18 year old HBD drivers reported by the Oklahoma Highway Patrol for the years 1994 through 1997 form the primary evaluation measures (dependent variable).

Three time periods were examined. Period one contains the crash data for the thirty-four months prior to the enactment of the zero tolerance legislation. Time period two tracks the six months time period between the enactment of the law and the implementation of the public information campaign. The final period includes the five post-public information campaign months.

Manipulation

A three-step process was used to develop the intervention campaign for this project. First, a review of literature regarding prevention campaigns targeted at the 16

through 18 year old target group was conducted to assist in formulating campaign goals and direction. Second, specific fear appeal strategies were examined to further target the message structure of the campaign. Third, a focus group was conducted to identify specific issues of import to local youth and to validate further the public information strategy developed in steps one and two.

Three primary themes were utilized in the development of the campaign materials. The first was the creation of simple, straightforward message strategies. Previous research findings have shown that a reduction in message ambiguity can have significant effects on the receiver of a message (Bloomberg, 1992). The second was the identification of a single, critically important theme to the target audience. To identify this element an investigation of relevant literature revealed that an increased perception of the likelihood of arrest or conviction is a better deterrent than the increase in the severity of penalties (Beyleveld, 1979). The third element of the campaign description was the translation of these two general guidelines into a specific message.

A focus group was conducted to further confirm previous research findings which found that an effective, tangible threat to this age group was the loss of their drivers license (Sweedler, 1990). The sixteen focus group participants confirmed previous research finding that arrest and loss of license were potent and concrete concepts. Therefore, the theme of "If you drink any alcohol you will be caught and you will lose your license" was adopted (see Appendix B).

Finally, the medium of delivery was chosen. As illustrated in Appendices B, C, and D, print and video were the chosen campaign tools. One card for each of 165,000

high school students in the state was distributed which outlined, in simple terms, the new law, while reinforcing the concepts of apprehension and license revocation to the reader (see Appendix B). Three posters, each a slight variation on the campaign theme, were distributed to each of the States' school (see Appendix B). These posters were developed to impart the simple campaign message. Finally, a video was developed, with student actors, that emphasized the certainty of arrest and license revocation, as well as three additional messages. The focus group confirmed that other messages could be of importance to members of this diverse target audience. As mentioned earlier, inconvenience on relationships is an important deciding factor in a young females individual decision making and the decision making to allow a significant other to drink and drive (NHTSA, 1996). Therefore, relational inconvenience was inserted as a further issue into the video. The video simulated the entire process of arrest to post-conviction, with additional emphasis on the loss of privilege and financial cost of a conviction, – two further issues identified by previous research and confirmed by focus group discussion. The video campaign was shown statewide on OETA, educational television, with all state teachers notified of airing times.

Focus Group

Sixteen students (9 male and 7 female) participated in a focus group conducted by the researcher at a conveniently selected high school to assess the student's general attitudes and behaviors toward drinking and driving messages. In a 45 minute session, the facilitator posed a series of 16 questions regarding three issues: alcohol, driving, and a combination of the two (see Appendix F). These concerns are congruent with

previous research which has indicated that an understanding of them within the target group are key to the success of any campaign (NHTSA, 1993a). The three main goals of the session were to develop a fuller understanding of motivations and attitudes toward these three general issue. The discussion indicated that the proposed goals and themes for the informational materials were salient with the test group. Further, punitive and informative danger-based messages seemed to appear more impactful to this group, with comments such as "looking at pictures of car wrecks won't make me stop drinking and driving, but knowing I would losing my license could." These findings and associated literature formed the basis for this multi-channel public information and education campaign.

Procedure

The printed and videotape materials were introduced into all of the states' high schools in cooperation with the State Department of Education on May 7, 1997, through the initiation of the in-class component of the PI&E campaign (see Appendix B). The Oklahoma State Department of Education disseminated to 575 high schools throughout Oklahoma the informational packets as well as posters for each classroom and institution (Appendix B). An eight-minute video was aired by OETA on May 16 and 23 for in-class viewing and the 165,000 information cards were provided to the states' students, one for each in the age group, at that time. On May 17, 1997, a statement for all Oklahoma law enforcement officers, to be read at roll calls, was distributed with similar information regarding the law and the campaign (Appendix C).

Data Analysis

The primary technique for data analysis of the accident-involved crashes was the Box Jenkins time series approach. According to Ross (1984), traditional deterrence studies face crucial methodological issues in the form of the ability to interpret the change and the validity of the measures. Ross (1984) deems interrupted time series analysis as the most promising methodology available in the case of deterrence-based interventions. According to McCleary and Hay (1980), time series analysis takes into account history, maturation, instability, and regression and is useful in situations where an intervention is expected to have a sharp, sudden impact. Therefore, this approach was selected because of its use in similar studies and its ability to examine directly the intervention of a countermeasure while accounting for factors such as seasonality and underlying trends which could potentially lead to false conclusions, by identifying and correcting for such trends (D. Ryle, personal communication, October 15-16, 1997).

The Box-Jenkins time series technique utilizes a univariate time series for the data series as well as one or more covariate series to control for related effects on the series being examined (Bloomberg, 1992). In this study, the covariates examined are the two intervention series. Utilizing a transfer function between the univariate model's output series and the independent covariate series, the interventions examined in this study are the: (a) impact of the introduction of the sanction and (b) the impact of the PI & E program on the sanctions (Bloomberg, 1992).

By examining the R^2 value of the univariate model, then the R^2 value of each individual intervention model, the researcher will determine the significance of the transfer function (P. Levy, personal communication, October 17, 1997). By analyzing each input series with respect to the other input series, the effect of each intervention will be assessed (Bloomberg, 1992). This analysis will answer both H_1 and H_2 as to the effects of intervention one – impact of the law alone (H_1) – and intervention two – impact of the coordinated PI&E (H_2).

CHAPTER III:

Results

A survey was distributed to all 475 participating schools to assess the extent of the distribution of the PI&E materials. One hundred and ninety three schools responded, 85 percent of which reported that they participated in the PI&E program. Therefore, it is estimated that 35% of all High School students in the State participated in the PI&E campaign.

Interrupted time-series analysis

As discussed in Chapter II, the technique chosen for this analysis was the Box-Jenkins time series approach (Box & Jenkins, 1976). First, a time series model was developed utilizing the available 45 months of crash data for the population of interest (a minimum of 40-50 data points are recommended for Box-Jenkins analysis (AFS, 1996)). Second, a multivariate (causal) analysis was performed using this crash data and one covariate series to control for the effect of the introduction of the sanction. When a covariate is utilized in the analysis, the technique develops a transfer function between the univariate model's output series and the independent covariate series. Third, a further covariate series was included in the model to control for the effect of the PI&E campaign. Both the sanction covariate and the PI&E covariate were constructed utilizing dummy variables for each intervention point.

The basic procedure examines and reports the initial models significant data points, trends, and r-squared value (r^2) (Campbell, 1969; Ross, Campbell & Glass, 1970). First, the sanction intervention series is introduced, then the PI&E intervention

series is added to monitor whether these additions increased the explanatory power of the model (its r-squared value).

The Box-Jenkins time series technique examines the significance of each input series by considering it with respect to all other input series (Bloomberg, 1992). Multivariate Box-Jenkins time-series modeling attempts to describe a single dependent series as a function of its own past and the values of one or more independent input series (AFS, 1992). The purpose of this causal modeling is to find the model which accounts for the predictable portion of the dependent series. The model identifies significant changes in value from period to period, taking into account seasonal and other predictable patterns. The model then finds the equation that reduces the time series with the underlying structure to white noise, the predictable portion of the time series which also maximizes variance.

The model identifies three general significant changes. First, a level pulse is a one time significant change in data from period to period. Second, a seasonal pulse is the predictable change in level based upon an identified seasonal pattern in the data series. Third, level shifts are a significant trend of greater than two data points, that are identified as a significant shift in that data series for these periods. The objective of the final model is to explain as much variance as possible through the identification of these significant changes. This allows the user to analyze significant changes or patterns and forecasts based on changes or patterns.

Once the model is identified, it must satisfy the following three assumptions before the model building process is complete and the best-fit model is accepted (AFS, 1996)

1) Identified model parameters must be statistically significant.

2) The model must be invertible, and,

3) The residuals from the model should be "white noise" (i.e., the residuals should not display any time dependencies).

It is also important to understand that the technique does not result in a unique solution. Alternative model forms with comparable fits to the underlying data can often be identified. The following analysis illustrates that possibility.

Hypothesized Results

H_1: Sanction effects. Both models were fit to the statewide data series for 16-18 year olds for the *sanction only* and the *sanction + PI&E* scenarios outlined above. Both time series models were significant ($p < 0.05$), indicating a significant transfer function was identified for the sanction intervention when fit to the data series. Table 4 represents the outcome of this analysis. In the case of the *sanction-only model*, an immediate pulse was identified at the intervention point. This pulse indicated an reduction of 2.649 crashes in November, 1996, the month the sanction was introduced. This decline can also be expressed in terms of percentage decrease. During this time period a 37% decrease in crashes was estimated. The R^2 reported for this model was 0.51 ($p<0.05$).

For the *sanction + PI&E model*, an immediate reduction of 2.07 crashes was identified at the *sanction* intervention point. This translates into a 31% decrease for the period. 55% of variance was accounted for with this model ($p<0.05$).

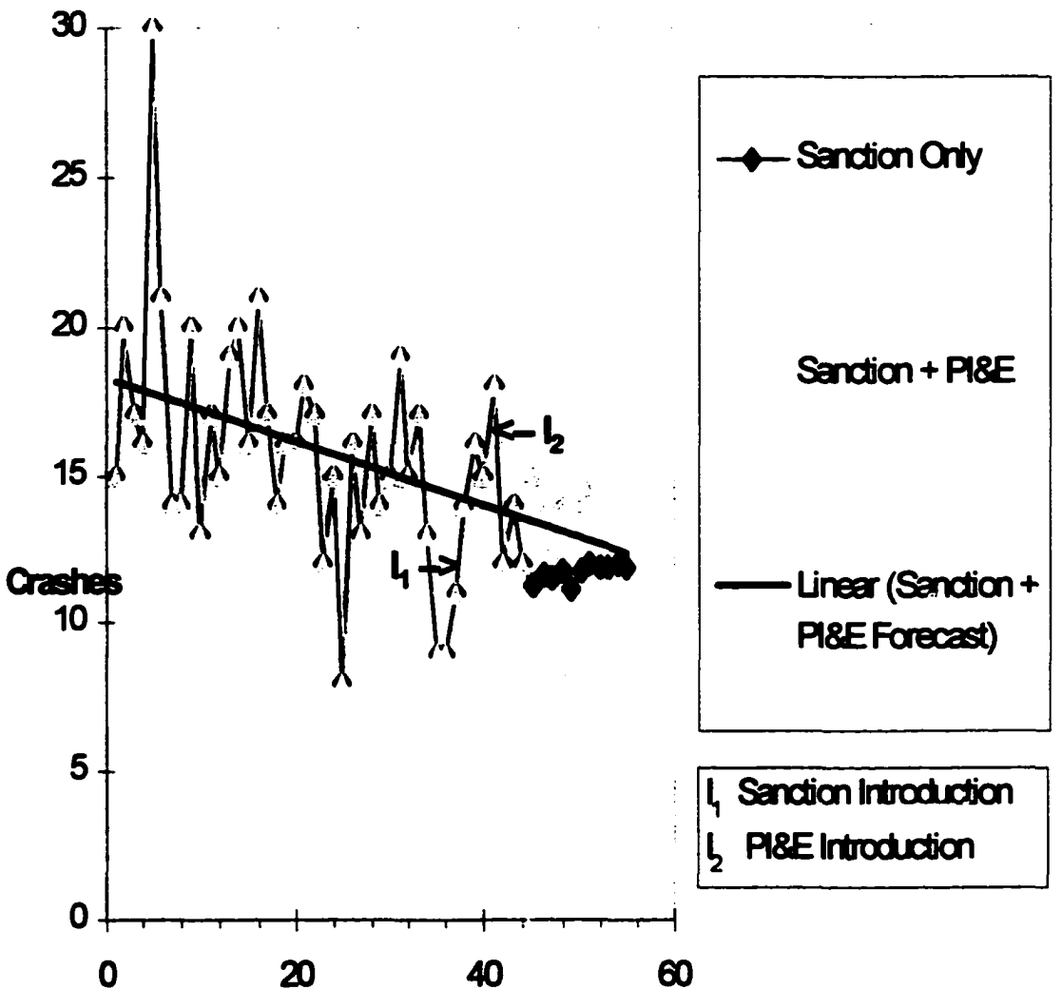
Table 4: Intervention Effects

	Sanction Effect	Sanction + PI&E Effect	r^2
Model 1: Sanction Only	-2.81	-2.07	51%
Model 2: Sanction + PI&E	-5.34	-2.54	55%

H_2: PI&E effects. As indicated in Table 4, a significant PI&E effect was found at the 0.05 level in the *sanction-only model* and the *Sanction + PI&E model*, indicating that a significant transfer function was identified for the PI&E intervention in all scenarios. In the sanction intervention model, a delayed level shift of -5.125 was identified two months into the PI&E campaign which translated to a 44% decrease in crashes for the period. The R^2 reported for this model was 0.51 ($p<0.05$). For the sanction + PI&E model, an immediate pulse of -2.54 was identified at the intervention point which translates into a 36% decrease in crashes for the period.

Figure 2: Youth-Involved Crashes

Actual and Forecast Series



As indicated in Figure 2, the trend in both the sanction series and the sanction + PI&E Series tend to illustrate a pattern in both the actual data and the forecast. Both H_1 and H_2 were found to be significant at the 0.05 level and the model forecast for each demonstrates encouraging estimated trends for the future.

CHAPTER IV:

Discussion

The purpose of this dissertation was to examine the relationship between risk behavior, sanctions, and public information and education campaigns. The study focuses on youthful alcohol-involved driving. A campaign was developed utilizing the Social Action Model of planned social change as the basis of a campaign developed to inform and educate the target group of a new alcohol involved driving sanction. Two hypotheses were examined. The first, was that the legislation of a sanction would have a positive result in reducing the risk behavior. This hypothesis was developed to confirm previous research and provide a base-line for the second hypothesis. The second hypotheses posited that a coordinated public information and education campaign, based on the law, would have a positive impact in reducing the risk behavior in question. It was developed to confirm the Social Action Model assumption that combined-strategy prevention programs produce more significant behavior change than specific strategy programs. The results of the study support both hypotheses.

It is of theoretical interest to observe that a targeted social change program based on the campaign appears to have produced an encouraging behavior change in such a high involvement activity. It is reasonable to posit that the effectiveness of both the sanction and campaign were enhanced by the emphasis placed on the campaign. Confirming previous research, it is reasonable to suggest that identifying individually important issues, such as loss of drivers license and driving privileges and reinforcing

the risk of prosecution, lead to a more effective, individualized message. Evidence indicates that the straightforward nature of these messages contributed to the campaigns success.

The theoretical import of these results confirms the utility of the Social Action Model in the context of a high risk behaviors. Most intervention models have limited success with high target involvement issues, particularly impacting youth. Some research has attributed this to youth's inexperience, recklessness, or sensation seeking (Beirness & Simpson, 1987; Elander, West, & French, 1993) and their personal and social characteristics (Vegega & Klitzner, 1988, 1989). Others have attributed this to societies implicit approval of the use of alcohol, the early driving age in most states, and the car as an integral element of our social fabric (NHTSA, 1994a, 1993a). Many researchers have further posited that the debilitating effects of alcohol, which youth exhibit a strong sensitivity toward, creates the necessity of *a priori*, preemptive prevention measures to be of any effect. By definition, the effect of alcohol on an individual moves this high target involvement process a step further, to a behavior that, once initiated, impairs judgment. This increases the need for intervention before the onset of these behaviors (Elander, West, & French, 1993). This research led to the hypotheses that the combination of education and persuasion, in support of an existing law would enhance the effect of the sanction. The success of this program lends credence to these suppositions.

In both models tested, significant results were obtained for both hypothesis 1 and hypothesis 2. Within the *sanction-only model*, a 36% decrease in crash-involved drivers in the target group was found with the enactment of the sanction. The sanction

model also found a significant crash reduction of 5.12 crash in time period 43 (July, 1997), two months into the PI&E campaign. This lag is common with many interventions (AFS, 1992).

With the addition of the PI&E interventions to the model, a further crash decrease of 44% was found in the analysis of the *sanction-only model* while an additional decrease in crashes of 36% was found in the *sanction + PI&E model.* These analyses of the sanction effects confirm and extend previous research in the deterrence field.

The study results provide support for the notion that legal deterrents and the perceptions of punitive sanction are effective in reducing risky behavior. In addition, these analyses support the hypothesis that a sanction can be enhanced by the inclusion of coordinated public information efforts.

This study confirms that the Oklahoma Zero tolerance sanction had some success as a highway safety countermeasure. From the laws' enactment, the data confirms a statistically significant reduction in HBD accident involved drivers between the ages of 16-18 of over 30% in the month of it's adoption. Additionally, a secondary significant drop, or lag effect, was found two months subsequent to the passage of this legislation. This reduction, interpreted with the subsequent downward level shift the data, could potentially indicate the development of a trend in this reduction that was instigated by the enactment of the sanction, the regular publicity that follows such legislation, and the timing of the enactment. Supporting evidence for this scenario exists. The timing of the laws passage coincided with a general media

effort targeted toward drunk drivers in the holiday season, which could have impacted this reduction.

Additionally, it appears that the beneficial effects of the zero tolerance sanction were enhanced by the PI&E campaign. The campaign – using direct access to the states' 165,000 high school students – in combination with the law led to a further average 40% reduction in alcohol involved youthful drivers. Although the sanction-only effect tends to trail off over time, the initiation of the PI&E campaign led to positive results. This PI&E reduction was of particular interest due to its downward trending (level shift) characteristics. With this level shift apparent, the addition of this localized public information to law enforcement across the State (which emphasized the punitive nature of the law) appears to have enhanced the beneficial effects of the sanction.

These results indicate that: (a) lower BAC restrictions for youth are effective countermeasures and (b) public information and education are effective enhancement and potent reminders of a perceived punitive sanction. Further comparisons either confirmed or did not provide contradictory evidence to dispute these observations.

Analyses on gender differences were performed. No gender difference was apparent. As previous literature indicates, females typically are found to be less involved in alcohol related crashes (Zador, 1989, NHTSA, 1993a). This fact, combined with the limited number of crash cases within the female population data over the studied time period, make this finding unsurprising.

A collateral analysis of youthful alcohol-related crashes as a proportion of total alcohol-related crashes offered little additional insight into the issue. Beyond seasonal

trends, two monthly changes were found to be significant. The first, the sanction intervention, was found to decrease the proportion of youthful crashes by 0.4% in time period 35 (November, 1996), while a slight increase in the youthful proportion was found (0.1% in March, 1997) two months prior to the PI&E campaign. The analysis confirms the prior indication that the sanction did have a significant effect on youthful drivers but eroded until the intervention of the PI&E.

As a final controlling mechanism, an analysis of total alcohol-related crashes for all ages was performed. With the exception of a seasonal pulse (February 1996), one data point was found to be significant, time period 24 (see Figure 2). This analysis indicated that a 56% one-time increase took place in this period. This time period coincides with the repeal of the mandatory speed limit law and it is likely to have contributed to that phenomena, due the gradual learning effect experience by drivers (Ross, 1984).

Limitations

Some limitations to this study must be addressed. First, any study conducted in the field may include confounding factors which cannot be avoided as rigorously as they are in a more controlled environment. Specifically, the data for this study came from a census of all Oklahoma Highway Patrol (OHP) records for the period. This data set was chosen as preferred to the full statewide data set for all crashes including municipalities and counties, due to the variance in reliability of the reporting across agencies, and does not include incidents not investigated by OHP.

Second, alternative explanations of the observed decline in alcohol involved crashes exist. It is possible that events outside of those measured did have some effect

on the outcome. However, the timing of the decreases, combined with an assessment of the environment reduces this probability.

Third, the use of alcohol or other drug involved crash codes as the selection criteria for this study may have included a level of human error (e.g., officer bias in reporting). Human error has been found in reporting of alcohol and other drug involvement (Hingson, 1994). Although inherently subject to normal statistical variability and the subjectiveness of police officers judgment, the estimated reduction of crash-involved youth by officers tend to lead to conservative estimates of any positive effect. Therefore, it would be more likely that a Type II error occur than a Type I error.

Fourth, this research did not focus on the 19-21 year age group which is also affected by the law. This was due to the stated requirement of the new law to educate high school students on it (see Appendix A). Future emphasis should be placed upon this high risk segment.

Fifth, only informal validation of the campaign materials took place. The dependence upon a single focus group and the young video actors for feedback regarding whether the goals of the campaign were expressed in the materials was not ideal.

Sixth, the timing of sanction and PI&E introduction both took place in historically high crash time periods. The sanction became law on November 11, 1996. The following two months, December and January, are generally high collision months. This season trend could have led to under-representation of the effect of the sanction in more stable, less high risk time periods. In addition, the school year end

coincided with prom season – another high crash period – particularly within the population of interest. Therefore, it is encouraging that the existing campaign produced a downward trend reduction in the crash population under examination.

Implications and Future Directions

Theoretical development can play a useful role in creating and enhancing public policy initiatives (Toomey, Rosenfield, & Wagenaar, 1996). This includes issues relating to high risk behavior. The findings in the present study tend to confirm this conclusion (see Bloomberg, 1992; Hingson et al, 1991). The application of the Social Action Model and its success in this instance provide increased knowledge regarding the utility of combined strategies, perceived threats, and the influence they exert. In addition, they presents a rich opportunity for further theory building.

Nevertheless, the success of the campaign and law may simply be because human behavior is much more predictable in situations where freedom of choice is severely limited (Beyleveld, 1979). If the choice is thought to be between compliance and loss of driving privilege, it is a good bet that those individuals that value highly their driving privileges will be deterred. Although this is positive in itself, it fails to provide solutions for those that are at highest risk. This leads to a continued concern that campaigns which are meant to deter, succeed only with the individuals that are amenable to the message and exclude those who are not. Following this line of reasoning, one must search for methods which provide some potential for effective behavior change in the highest risk group – the group that believes the risks involved in particularly dangerous behavior are acceptable.

A better understanding of the role each of the three change strategies – power, persuasion, and education – play when combined is needed to address this and other issues. Examination of the order of application holds promise in light of the present study which found that post hoc reinforcement was effective. Development and evaluation of campaigns more extensive than that discussed here should be pursued.

A greater appreciation of the contextual conditions that affect successful change is also called for. The Social Action Model is sufficiently broad so as to not be constrained by context. However, as the strength of diffusion programs was found in tangible technology transfer, the limitations and strengths (e.g., effective and ineffective contexts) of the Social Action Model must be further identified.

Success of environmental policy change programs have taken place in numerous contexts. With the increased minimum legal drinking age (MLDA) in the early 1970's, researchers found that youthful traffic crashes increased significantly (Cucchiaro et al, 1974). In response, states began in the late 1970s to increase the MLDA and in 1988 when all states had enacted 21 year MLDA, deaths in this group decreased. Research agendas must continue to not only evaluate public policy, but also build and reinforce it.

In addition to a decrease in youth crash involvement, studies found that risk behaviors have been reduced in a population long after the policy change affects the group (Toomey, Rosenfield, & Wagenaar, 1996). Nevertheless, few studies have analyzed the process in terms of what role that publicity and education played in this decrease.

Other traffic safety issues can benefit from these findings. Evidence clearly indicates that seat belts save lives, unfortunately common fallacies exist in much of the general population. Opportunities exist with the continued passage of mandatory seat belt legislation to study seat belt use and the effect of campaigns similar to the Oklahoma zero tolerance campaign. NHTSA has found unequivocally that the 1995 speed limit increase, like the MLDA increase of the early 1970's, has led to a significant rise in death and injury on our highways (NHTSA, 1997). Research must address the possibility that campaigns such as the present one could lead to a less significant increase.

Unfortunately, in the face of strong public sentiment, these efforts are continually at risk for repeal. Motorcycle helmet laws have been passed then repealed in 12 states in from 1985-1995, due to organized lobbying efforts at the legislative level (NHTSA, 1996). The net result in each case was a decrease in brain and spinal injuries when the law passed and an increase when it was repealed. Many of these states developed and executed large-scale public information and education campaigns informing citizens about the positive effect of the law, yet public opinion dictated its removal from the statutes. Research is needed into effective strategy combinations to reduce the probability of repealing such laws.

Aggressive driving or "road rage' is a popular topic in the media presently. Such psycho-social issues will continue to be of increasing interest to researchers. At present, few states have laws directly addressing this phenomena, but many State Legislatures are in the process of developing them (McDonald, 1997). This provides

further opportunity to coordinate and measure the social action model in a substantially different, and greatly more subjective, risk behavior category.

Finally, deterrence, education, and information do not necessarily lead to prevention. Illicit drug us continues to be an issue which seems to defy the value change which leads to long-term prevention, regardless of the resources committed to it. As we have seen, many researchers attribute this to the sensation seeking of particular personality types, physiological differences, and peer pressure among other things. The majority of campaigns in support of laws have failed to reduce illicit drug use as substantially and in as short amount of time as the present campaign did with youthful HBD driving. Further research on this issue is required.

Conclusions

This study explores the development, execution, and evaluation of a planned social change campaign targeting high-involvement risk behavior. The Social Action Model was utilized as a framework for campaign development and evaluation construction. The results of the study found a significant reduction in HBD crash-involved youth after the introduction of the zero tolerance sanction. Further significant decreases were found after the implementation of the public information and education campaign. These results provide evidence that a coordinated public information and education campaign, in support of a specific sanction, can have a positive effect on the desired outcomes of that sanction.

In this dissertation, a promising new direction has been found through the development of a campaign strategy that extends knowledge on how to effect change. This change presents an opportunity to reduce risk behavior and save young peoples

lives, in a high involvement condition of importance to society and the individual, when many of the individuals in question believe that they will never die.

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Appendix A: Drunk Driving Prevention Act

Appendix A

DRUNK DRIVING PREVENTION ACT

6-106.1. DRUNK DRIVING PREVENTION ACT.

Sections 6-106.1 through 6-106.3 of this title and Section 1 of this act (Section 6-106.4 of this title) shall be known and may be cited as the "Drunk Driving Prevention Act".

6-106.2. PURPOSE OF ACT.

The purpose of this act (Sections 6-106.1 through 6-106.4 of this title) is to reduce the incidence of death, injury and property damage in this state by those persons who drive while under the influence of alcohol or other intoxicating substances.

6-106.3. PUBLICATION AND EXAMINATION REQUIRED.

A. The State Department of Education shall, within one (1) year after the effective date of this act, develop and administer appropriate driver education programs to be conducted in all of the schools of this state to increase awareness of the dangers of drinking and driving.

B. 1. In order to provide education and instruction to all applicants for an original Oklahoma driver license, the Oklahoma Driver's Manual, published and distributed by the Department of Public Safety pursuant to Section 2-114 of this title, shall contain accurate information on:

a. the hazards of driving while under the influence of alcohol or other intoxicating substances, and

b. the legal and financial consequences resulting from violations of this state's laws prohibiting the operation of a motor vehicle while under the influence of alcohol or other intoxicating substances.

2. In addition to the subjects set forth in Section 6-110 of this title, the written examination administered by the Department of Public Safety to every applicant for an original Oklahoma driver license shall contain questions on the subjects listed in this subsection.

6-106.4. PERSONS UNDER 21 UNDER THE INFLUENCE.

A. It is unlawful, and punishable as provided in subsection C of this section, for any person under twenty-one (21) years of age to drive, operate, or be in actual physical control of a motor vehicle within this state who:

1. Has any measurable quantity of alcohol in the person's blood or breath at the time of a test administered within two (2) hours after an arrest of the person;

2. Exhibits evidence of being under the influence of any other intoxicating substance as shown by analysis of a specimen of the person's blood, breath, saliva, or urine in accordance with the provisions of Sections 752 and 759 of Title 47 of the Oklahoma Statutes; or

3. Exhibits evidence of the combined influence of alcohol and any other intoxicating substance.

B. As used in this section, the term "other intoxicating substance" means any controlled dangerous substance as defined in the Uniform Controlled Dangerous Substances Act, Section 2-101 et seq. of Title 63 of the Oklahoma Statutes, or any

other substance, other than alcohol, which is capable of being ingested, inhaled, injected, or absorbed into the human body and is capable of adversely affecting the central nervous system, vision, hearing, or other sensory or motor function.

C. 1. Any person under twenty-one (21) years of age who violates any provisions of this section shall, upon conviction, be guilty of driving under the influence while under age. A violator shall be punished for a first offense by a fine of not less than One Hundred Dollars (100.00) nor more than Five Hundred Dollars ($500.00), or by completion of twenty (20) hours of community service, or by requiring the person to attend and complete a treatment program, or by any combination of fine, community service, or treatment.

2. Any violator, upon a second or subsequent conviction, shall be punished by a fine of not less than One Hundred Dollars ($100.00) nor more than One Thousand Dollars ($1,000.00), or by completion of forty (40) hours of community service, or by requiring the person to attend and complete a treatment program, or by any combination of fine, community service, or treatment.

3. The court may assess additional community service hours in lieu of any fine specified in this section.

4. In addition to any penalty imposed pursuant to the provisions of this section, the person may be subject to:

a. the cancellation or denial of driving privileges as ordered by the court pursuant to Section 6-107.1 of Title 47 of the Oklahoma Statutes,

b. the seizure of the drivers license at the time of arrest or detention, and the administrative revocation of driving privileges by the

Department of Public Safety pursuant to Section 754 of Title 47 of the Oklahoma Statutes, and

c. the mandatory revocation of driving privileges pursuant to Section 6-205.1 of Title 47 of the Oklahoma Statues, which revocation period may be modified as provided by law.

D. Nothing in this section shall be construed to prohibit the filing of charges pursuant to Section 761 or 11-902 of Title 47 of the Oklahoma Statutes when the facts warrant.

6-107. LICENSE FOR PERSON UNDER 16 - LIABILITY - FINANCIAL RESPONSIBILITY - CANCELLATION OR SUSPENSION.

A. The application of any person under the age of sixteen (16) years for a restricted license shall be signed and verified before a person authorized to administer oaths by the father, mother or guardian, or, in the event there is no parent or guardian, then by another responsible adult who is willing to assume the obligation imposed under this act upon a person signing the application of a person under sixteen (16) years of age.

B. Any negligence or willful misconduct of a person under the age of sixteen (16) years when driving a motor vehicle upon a highway with the knowledge and consent of the person who signed the application for the restricted license shall be imputed to the person who has signed the application. Such person shall be jointly and severally

liable with the minor for any damages caused by such negligence or willful misconduct, except as otherwise provided in subsection C of this section.

C. In the event a person under sixteen (16) years of age deposits or there is deposited upon his behalf proof of financial responsibility in respect to the operation of a motor vehicle owned by him or if not the owner of a motor vehicle then with respect to the operation of any motor vehicle, in form and in amounts as required under the motor vehicle financial responsibility laws of this state, then the Department may accept the application of such person when signed by one parent or the guardian of such person., and while such proof is maintained such parent or guardian shall not be subject to the liability imposed under subsection B of this section.

D. The Department may, at its discretion, cancel or suspend the license of any person under the age of eighteen (18) years for any unlawful act, negligence or misconduct while driving a motor vehicle.

6-107.1. RECOMMENDATION TO CANCEL OR DENY DRIVING PRIVILEGES OF PERSON UNDER 21 - NOTIFICATION OF DEPARTMENT OF PUBLIC SAFETY.

A. When any district court, municipal court of record or any municipal court in a city or town in which the judge is an attorney licensed to practice law in this state has determined that a person under the age of eighteen (18) years has committed any offense described in subsection C of this section, or that a person eighteen (18), nineteen (19), or twenty (20 years of age has committed an offense described in Section 1 of this act (Section 6-106.4 of this title), the court shall notify the

Department of Public Safety on a form prescribed by the Department as provided in Section 6-107.2 of this title.

B. The notice shall include the name, date of birth, physical description and, if known, the driver license number of the person. The notice shall contain a recommendation to the Department to cancel or deny driving privileges for a specified period of time, in the discretion of the court, except as otherwise provided by law, as follows:

1. For a period not to exceed six (6) months;
2. For a period not to exceed one (1) year; or
3. For a period not to exceed two (2) years; or
4. Until the person attains twenty-one (21) years of age.

The court shall send a copy of the notice to the person first class, postage prepaid.

C. In addition to the administrative revocation of driving privileges pursuant to Section 754 of this title, and the mandatory revocation of driving privileges pursuant to Section 6-205.1 of this title, this section applies to any crime, violation, infraction, traffic offense or other offense involving or relating to the possession, use, sale, purchase, transportation, distribution, manufacture, or consumption of beer, alcohol, or any beverage containing alcohol and to any crime, violation, infraction, traffic offense or other offense involving or relating to the possession, use, sale, purchase, transportation, distribution, manufacture, trafficking, cultivation, consumption, ingestion, inhalation, injection, or absorption of any controlled dangerous substance as defined by paragraph 8 of Section 2-101 of Title 63 of the Oklahoma Statutes or any substance which is capable of being ingested, inhaled, injected or absorbed into the

human body and is capable of adversely affecting the central nervous system, vision, hearing or other sensory or motor functions.

6-107.2 DEPARTMENT OF PUBLIC SAFETY TO CANCEL OR DENY DRIVING PRIVILEGES UNDER SECTION 6-107.1 - PETITION - HEARING - MODIFICATION, REINSTATEMENT.

A. The Department of Public Safety shall prepare and distribute a Notification form to be used by the courts, as provided in Section 6-107.1 of this title. In addition to any other authority to cancel or deny driving privileges, the Department of Public Safety shall, upon receipt of such completed Notification form from a court, cancel or deny all driving privileges of the person named in the Notification form without hearing, for a period of time recommended by the court.

B. Upon receipt of a second or subsequent Notification from a court relating to the same person, the Department shall cancel or deny driving privileges of the person for a period of two (2) years or until the person attains eighteen (18) years of age, whichever is longer.

C. Any person whose driving privileges are canceled or denied pursuant to this section may file a petition for relief based upon error or hardship.

1. The petition shall be filed in the district court which notified the Department pursuant to Section 6-107.1 of this title or, if the Notification originated in a municipal court, the petition shall be filed in the district court of the county in which the court is located. a copy of the Notification and a copy of the Department's action canceling or denying driving privileges pursuant to this section, shall be attached to the petition.

2. The district court shall conduct a hearing on the petition and may determine the matter de novo, without notice to the Department, and if applicable, without notice to the municipal court; provided, the district court shall not consider a collateral attack upon the merits of any conviction or determination which has become final.

3. The district court may deny the petition, or in its discretion, issue a written Order to the Department to increase or decrease the period of cancellation or denial to any period or issue a written Order to vacate the Department's action taken pursuant to this section, in its entirety. The content of the Order shall not grant or purport to grant any driving privileges to the person, however such order may direct the Department of Public Safety to do so if the person is otherwise eligible therefor.

D. Upon receipt of a written Order from the appropriate court, the Department shall modify or reinstate any driving privileges as provided in the Order.

Appendix B: Public Information and Education Campaign Literature

SANDY GARRETT
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
OKLAHOMA STATE DEPARTMENT OF EDUCATION

May 7, 1997

Dear Counselors:

The Zero Tolerance Law is in effect. Under this law, restrictions on underage drinking and driving have been tightened. Police officers may now revoke the license of anyone under 21 caught driving with any alcohol in his or her system. The State Department of Education and school districts are now mandated by law to provide this information to their students. In order to educate students and comply with the new mandate, the University of Oklahoma, the Oklahoma Highway Safety Office, and the Oklahoma Department of Education have developed a campaign which includes a number of strategies.

The last few weeks of any school year may present opportunities for high school students to take health risks with alcohol as they celebrate graduation or the coming summer break. Now is the time to implement prevention education about drinking and driving. Before the school year ends, display the enclosed posters and distribute the enclosed documents to each student in Grades 9-12 in your school. For your convenience, a six-minute video presentation of the Zero Tolerance Law will be aired on OETA at 1 p.m. on Friday, May 16 and 23, 1997. Please encourage your teachers to provide students time to review the materials and watch the video. This is a quick and effective way to present the required information about the new law.

Similar legislation has been enacted in other states with phenomenal results. Traffic crashes in the under 21 age group have decreased by as much as 50 percent. Your compliance with this law will make a difference to the students at your school. Thank you for your help.

Sincerely,

Dan Reich

Dan Reich, Director
Health, Safety, and Physical Education

DR/js

enclosures

2500 NORTH LINCOLN BOULEVARD, OKLAHOMA CITY, OK 73105-4599
(405) 521-3301, FAX: (405) 521-6205
FIRST BY THE TWENTY-FIRST

Zero Tolerance

There's a new law that you should know about because it's for you! From now on if your under 21 there will be Zero Tolerance, and Zero means Zero!
Since it's illegal for you to drink if your under 21 it just makes sense that it's illegal for you to drink and drive, that's what zero tolerance is all about.
Under the new law it's illegal, for you, if you're under the age of 21, to drive or be in physical control of a vehicle when you're under the influence of any measurable amount of alcohol or other drug. If you break the law, you are going to pay and this is what's going to happen:

Sanction	1st Offense	2nd Offense
Fine	$100-$500	$100-$1000
Community Service	20 hours	40 hours
Treatment Program	(you pay for it)	
Revoke License (ALR)	(from 6 months or until age 21)	

If you're under the age of 21 can also have your driver's license automatically revoked for any of the following:

- Refusing breathalyzer
- Actual physical control of a vehicle
- Failure to stop after being involved in an accident
- Showing false identification to a police officer

Revocation as a result of these offenses will be for 6 months on a first offense, 1 year on a second and 3 years for any subsequent offense within a five-year period. After a 3 year revocation you might get your license back but there are no guarantees.

The appeal process for any license revocation is can cost up to $650.00 and take anywhere from 6 months to a year.

Appendix C: Roll Call Statement

Roll Call Statement

To:	The Oklahoma Law enforcement Community
From:	The Oklahoma Community Awareness Program
Contacts:	Ross Clarke
	Rebekah Howard
	405-325-1324
Date:	May 15, 1997
Re:	Oklahoma's Zero Tolerance Law

As you are well aware, the new Zero Tolerance Law went into effect last November. The program focuses on Oklahoma's license restriction which prohibits persons under the age of twenty-one from driving with even a small amount of alcohol in their system. This law - among many other things - allows the State to revoke the drivers license of anyone under 21 who is found to be using alcohol. This is a proven method for drastically decreasing alcohol involved crashes. Research by law enforcement experts has found:

1. Underage drinking is the leading cause of death in the 16-24 year age group.
2. Lowering BAC limits for youth reduces alcohol involved crashes by 10 to 20 percent.
3. Swift and sure license action has the greatest potential for deterrence and reduced recidivism of drinking and driving by youth.
4. In states that have **enacted and enforced** zero tolerance type laws there has been up to a 50% decrease in alcohol involved traffic crashes in this age group.

Enclosed you will find copies of brochures and posters which have been released to all of the States' high school students informing them about this law. The key to the success of this effort is strict enforcement and processing of the license revocation forms by the arresting officer. In surveys of high school student in the State we have found that they do not believe that anything will happen to them - particularly license revocation - even under this stricter new law.

Twenty children under the age of 21 died and 374 were injured in reported alcohol involved crashes in the State in 1995. You, as law enforcement officials, are the people with the unenviable task of having to deal with these incidents. If we can thoroughly educate and persuade youth and their families of the serious consequences of this law and you can thoroughly enforce them, we could reduce these numbers by one-half and save many Oklahoma families and law officers the pain that these senseless deaths cause.

Oklahoma's Zero Tolerance Law

A new section of Oklahoma Statutes: Title 47 went into effect on Nove nber 1, 1996. The new section (6.106.4) is part of the Drunk Driving Prevention Act and specifically targets underage drinking. Under the new law, it is unlawful for any person under the age of 21 to drive, operate, or be in actual physical control of a vehicle with ***any*** measurable amount of alcohol or other substance or combination thereof in their blood or on their breath. Any individual under 21 found guilty of violating this provision can by convicted of driving under the influence while under age.

Violators who are convicted can receive any of the following sanctions or a combination thereof:

Sanction	1st Offense	2nd Offense
Fine	$100-$500	$100-$1000
Community Service	20 hours	40 hours
Treatment Program	(offender must pay for program)	
Revocation of License (ALR)	(from 6 months to 2 years or until age 21)	

A person under the age of 21 can also have their driver's license automatically revoked for any of the following:

- Refusing breathalyzer
- Actual physical control of a vehicle while impaired
- Failure to stop after being involved in an accident
- Showing false identification to a police officer

Revocation as a result of these offenses will be for six months on a first offense, one year on a second and three years for any subsequent offense within a five-year period. The appeal process for any license revocation is expensive and lengthy.

Appendix D: Zero Tolerance Video Script

COX
VIDEO PRODUCTION

"ZERO TOLERANCE"
FINAL SHOOTING SCRIPT

VIDEO	AUDIO
	(SOUND OF ROCK UNDERNEATH FEET)
FADE IN: LS of Jay walking down railroad tracks at Bricktown location #2.	Yea, my name is Jay. I'm seventeen...and I just lost my driver's license, a thousand dollars in legal fees, my girlfriend.....and my dignity. I know it was because I was stupid, but man, give me a break.
SWISH PAN EFFECT: TO STUDIO Jay Michael on stool. Intercut different angles of Jay delivering lines. Note: Intercuts will be in BW.	In the past, getting caught drinking under age was usually no big deal. You might have received a ticket and a small fine for a Minor in Possession. Well, that was then....this is now. There are new rules for a new generation. Under the new law, there will be zero tolerance for underage drinking. And zero means zero. Here's what happened to Susan, Clifford, Curtis and Anthony. Four teenagers who thought they were invincible.
CUT TO MWS of Jay in Bricktown location #1 holding sign that reads: "GETTING BUSTED"	You'll visit places that you've never been...or never wanted to go.
SWISH PAN EFFECT TO: CU of Susan standing before a polaroid camera as it flashes. Her friends Ashley and Terri are watching making fun at her.	ASHLEY: *"I can't believe you're getting you're driver's license!....We <u>are</u> going to celebrate tonight!*
SWISH PAN EFFECT. NIGHT. MS of girls drinking and laughing.	JAY (V.O.) *"And celebrate they did."*
CUT TO: Series of CU's and MCU's of girls spilling	
CUT TO: CU of police officer's eyes CUT TO: CU of officer's badge CUT TO: CU of officer's hand turning on siren. CUT TO: CU of officer shifting car into gear. CUT TO: LS of police car screeching away.	NAT SOT of police siren in BAC JAY (V.O.) *"Uh Oh...OK, here's how it goes down. Even before you're pulled over on Suspicion of Drinking and Driving, a police officer is making initial assessments that can be used in his report.* JAY (V.O.) *"First, the officer observes*

VIDEO	AUDIO
	your vehicle in motion. If you are suspected of drinking and driving, you will see the festive flashing lights in your rear view mirror.
CUT TO: MS of red flashing lights.	
CUT TO: Shot of policeman approaching car. Shot from inside of car.	
CUT TO: Susan struggling to maintain composure. as she fumbles with the glove compartment.	JAY (V.O.) *"The officer may decide to test you for Drunk Driving."*
	MUSIC UP FULL
CUT TO: MWS of Police Officer approaching car.	
CUT TO: Susan fumbling with her seat belt. She gets it undone at the same time she opens the door. When the door opens, a beer can falls out onto the pavement.	
CUT TO: Beer can rolling into policeman's foot. (After a beat, CAMERA does a slow tilt up the leg of the police officer to his face.	
CUT TO: Susan trying to walk a straight line and not doing a good job of it.	
CUT TO: CU of Susan's eyes when the officer checks them.	JAY (V.O.) *"The HGN test helps the officer look for involuntary motion of the eyes brought on by alcohol or other central nervous system depressants. "The officer can place you under arrest at any time during the five to seven minute test.*
CUT TO: CU of Susan's eyes when the officer checks them.	
DISSOLVE SERIES of shots of Susan trying to touch her nose, walk the line, etc.	
CUT TO: CU of Police Officer's handcuffs on his belt as his hand reaches for them.	
CUT TO: MS of Police Officer handcuffing Susan and placing her in the police car.	JAY (V.O.) *"So it's off to jail and a drinking and driving charge. There are new rules for a new generation, and to celebrate, Oklahoma has passed a tough new underage drinking law. It's called ZERO TOLERANCE and zero means zero".*
FADE TO BLACK	

VIDEO	AUDIO
FADE IN : Jay standing at Bricktown location #3 with a sign in his hands that reads: "FREE ROOMS"	JAY (V.O.) *"You'll learn things you never thought you'd learn. And meet people you never thought you'd meet."*
SWISH PAN EFFECT TO: LS of Clifford in jail orange being led down long hallway	CLIFFORD:(V.O.) *"What have I done? I had dreams of going to M.I.T...and now I'm in jail probably headed for some treatment dive.*
CUT TO: CU of Clifford's face as his guard unlocks the cell door.	CLIFFORD: (V.O.) *"I cant' believe I was so Stupid!*
CUT TO: MWS of Clifford being led into cell.	SOUND of Jail door slamming
CUT TO: LS of Clifford sitting on jail bunk.	CLIFFORD: (V.O.) *"Let me lay it out for you...just in case you don't have it yet. If you're under the age of 21, to get behind the wheel of a car and you've been drinking anything....you ARE under the influence. So if you're thinking about driving...think again! You could lose your license, your car, your girlfriend, your summer work money, your insurance, your job. The bottom line is do you want your mom dropping you off at the movies again like she used to? "*
DISSOLVE TO FULL SCREEN GRAPHIC OVER CU OF JAIL DOOR FIRST OFFENSE $200-$500 Fine 20 Hours Community Service Treatment Program Revocation of License	JAY (V.O.) *"This is how it adds up: For the first offense, a two to five hundred dollar fine, twenty hours of community service, a treatment program that you get to pay for and revocation of you license from six months or until you turn 21."*
DISSOLVE TO: LS of Clifford sitting in cell with two or three raggedy prisoners.	MUSIC UP FULL
CUT TO: MS of Jay at Bricktown location #4 with sign that has a huge dollar sign on it.	MUSIC UNDER JAY (V.O.) *"You'll spend more money than you ever thought you could."*
SWISH PAN EFFTECT TO: WS of Attorney's office Curtis and his dad are seated in front of the attorney's desk.	JAY (V.O.) *"Living without a driver's license means you must be completely*

VIDEO	AUDIO
CUT TO: CU of Curtis CUT TO: MS of disturbed father CUT TO: MS of Attorney CUT TO: MS of case file or photos	*dependent on others for transportation. What Clifford did not count on, was getting pulled over after just two beers. He was taken to jail for driving under the influence and spent the night in jail. His dad spent nearly three hundred dollars to get him out, seventeen hundred dollars for an attorney, eighty dollars to get his car our of impoundment, another hundred for a license reinstatement fee "....plus five hundred dollars in fines."*
CUT TO: LS three shot from behind Curtis and his dad. PUSH to attorney as he opens the file Revealing the bill.	MUSIC UP FULL MUSIC UNDER
CUT TO: CU of dad's bewildered face. CUT TO: CU of Curtis looking away.	JAY (V.O.) *"Things are already adding up and the nearly three thousand dollars of money down the drain doesn't cover other related costs. Such as...court required counseling, visits to a treatment center, probation fees, lost time at work and higher insurance premiums.*
CUT TO: MS of dad taking checkbook out of his suit jacket. FOLLOW as he grabs a pen and opens the checkbook.	*So...the cost of a first offense DUI can exceed six thousand six hundred dollars. But consider yourself lucky... In El Salvador...the first offense is execution by firing squad!"*
CUT TO: CU of Curtis CUT TO: CU of Attorney CUT TO: CU of dad shaking head "no".	
FADE TO BLACK	
FADE IN TO: MS of Jay holding sign that reads: "FRIENDS FOREVER"	JAY (V.O.) *"You'll discover that friends really can't let friends drive drunk anymore."*
SWISH PAN EFFECT TO: MCU off Judge CUT TO: MS of Anthony and his dad	JAY (V.O.) *"Judge Carlson lives next door to Anthony and his dad....has for 25 Years. He's watched Anthony grow up into a fine athlete..*
CUT TO: CU of Anthony	*Anthony has had one other run in with the law. Back then, Judge Carlson got Anthony a reduced sentence. But now the story's different...this is Anthony's second offense."*
CUT TO: Dad pleading his case to the Judge.	
	MUSIC UNDER
DISSOLVE TO: CU's of crash black and whites	JAY (V.O.) *In the past, drinking under age has been viewed as "normal" behavior. However, growing concern about the devastation caused by alcohol related car crashes has prompted many people to advocate the implementation*

VIDEO	AUDIO
	of tougher laws and policies.
DISSOLVE TO: MCU of Judge	*Judge Carlson can no longer be the kind of "Friend" that Anthony and his dad need right now."*
FADE TO BLACK	
FADE IN TO: MLS of Jay in studio on a stool.	JAY (ON CAMERA) *"What you have just seen are the harsh consequences of drinking and driving. Nationwide, alcohol related traffic fatalities are the leading cause of death among people ages sixteen to twenty four. About every two in five Americans will be involved in an alcohol related crash at some time in their lives.*
PUSH TO MS of Jay	*As you can see, a DUI does not equal just "one bad night", but can affect your life forever.*
PUSH TO LCU of Jay	*In closing, if you have never experienced a driving under the influence while under age arrest, keep it that way! If you have, it's a good idea to put some time between you and that incident.*
START SLOW PULL OUT TO WS	*The only way to do that is by never, ever getting behind the wheel after you've beer. drinking.*
	Remember...."It only takes one."
Jay walks out of shot as sponsor logos appear full screen.	
FADE TO BLACK	

Appendix E: IRB Approval Letter

The University of Oklahoma

OFFICE OF RESEARCH ADMINISTRATION

August 8, 1997

Mr. S. Ross Clarke
CCE-PCS-OCAP
University of Oklahoma

Dear Mr. Clarke:

Your research proposal, "Lower BAC Limits for Youth – PI&E Campaign," has been reviewed by Dr. E. Laurette Taylor, Chair of the Institutional Review Board, and found to be exempt from the requirements for full board review and approval under the regulations of the University of Oklahoma-Norman Campus Policies and Procedures for the Protection of Human Subjects in Research Activities.

Should you wish to deviate from the described protocol, you must notify me and obtain prior approval from the Board for the changes. If the research is to extend beyond twelve months, you must contact this office, in writing, noting any changes or revisions in the protocol and/or informed consent form, and request an extension of this ruling.

If you have any questions, please contact me.

Sincerely yours,

Karen M. Petry
Administrative Officer
Institutional Review Board

KMP:pw
98-023

cc: Dr. E. Laurette Taylor, Chair, IRB

1000 Asp Avenue, Suite 314, Norman, Oklahoma 73019-0430 PHONE (405) 325-4757 FAX (405) 325-6029

Appendix F: Focus Group Informed Consent & Protocol

Parental Permission Slip

_____ has my permission to participate in a classroom focus group conducted by the University of Oklahoma's Oklahoma Community Awareness Program (OCAP). OCAP is funded by the Oklahoma Highway Safety Office. It's primary misssion is to inform the state's college, university, and high school populations about the responsibilities and risks inherent in the decision to use alcohol. In this group discussion, students will be sharing their views on the most effective message and delivery method to urge young people not to drink and drive.

_____

Parent's signature *Date*

Parental Permission Slip

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_____

Parent's signature *Date*

The New Rules
Focus Group Questionnaire

How long have you been driving?

1. What did you think driving would be like when you were a kid?

    1.1 Is that how it is?

    1.2 What first made you want a driver's license?

    1.3 How do you feel when you get behind the wheel of a car?

2. What is it about being able to get around on your own that is important?

    2.1 How would your life change if you didn't have a driver's license?

3. What would be the ideal car? What would it say about you?

    3.1 What kind of car do you drive?

    3.2 What do you like about it?

    3.3 What do you dislike about it?

    3.4 If you were going to buy a car, what kind of things would be important to you?

    3.5 If you were a car designer, what features would you put in a car?

4. How did you learn to drive?

    4.1 Were you ever in a driver education course?

    4.2 Did the course have any influence on your driving?

    4.3 What was the nature of this influence?

    4.4 How could the course have been improved?

5. Are there any exciting by dangerous activities that you enjoy?

    5.1 What are the activities?

5.2 What is it about these activities that you enjoy?

5.3 Can you achieve this enjoyment driving or riding in a car?

5.4 How?

5.5 What can you tell me about the good feelings you get from driving?

5.6 Anything else give you these feelings?

6. How do you feel as a driver? Are you always that way? When do you feel different?

6.1 Do you ever feel uneasy or lack confidence when driving?

6.2 Could you give examples of either or both?

6.3 When are you at your worst?

7. Are there any negatives of owning and driving a car?

7.1 What are the things that come to mind?

7.2 What are your greatest fears or concerns about driving?

7.3 Are most people your age concerned about these things?

7.4 What are the causes of these problems?

7.5 How do you feel about driving on highways?

7.6 Do you worry about being in an accident?

7.7 Do you worry about losing your driver's license?

8. Do these concerns cause you to do anything special?

8.1 If so, what special things do you do?

8.2 Why do you do these things?

8.3 When did you first start doing these things?

8.4 What mad you want to do these things?

9. What is it about some drivers that make you most comfortable as a passenger?

    9.1 What about most uncomfortable?

    9.2 What do you think really determines what makes someone a good driver?

10. What does partying mean to your life?

    10.1 What is your favorite way to party?

    10.2 How important is this to you?

    10.3 What is your idea of a good time on weekends?

    10.4 What do you do when you really want to relax?

11. How about drinking...What does it mean to you?

    11.1 How do you know when you've had too much?

    11.2 When do you usually drink?

    11.3 What do you usually drink?

    11.4 Whom do you usually drink with?

    11.5 Where do you usually drink?

12. How do you feel about driving a short distance after you had a little to drink, if you knew you were under the DWI limit and could not be arrested?

    12.1 If you drink, how do you determine when you've reached the legal DWI limit?

    12.2 Let's say you knew you were slightly over the DWI limit, how would you feel about driving?

    12.3 Suppose you were way over the limit?

    12.4 How do you think some people manage to drive home when they've had too much to drink?

    12.5 How do you feel about the 21-year-old drinking age law?

12.6 Has this law changed your drinking in any way?

12.7 How do you feel about police roadblocks to check for people who are DWI?

12.8 Do you feel these roadblocks will be effective in discouraging DWI?

12.9 Have you ever been stopped? How did you feel?

13. What would be the best way to improve people's driving?

13.1 What are the chances this would work?

13.2 Why might it work?

13.3 Why might it fail?

14. What do you think about . . .

14.1.1 people who drink and drive?

14.1.2 someone who lost their license because of a DUI?

15. What would be the best way to stop people from drinking and driving?

16. What would be the best way to convince your friends not to drink and drive?

16.1 How would you get this message to them?

Breaking the Language Barrier

1. List ten ways to say "Loser."

2. What do you think of people who drink and drive?

3. What would you say to someone who lost their license because of a DUI?

4. If you were to develop a message to stop people from drinking and driving, what would that be?

5. How would you get your message to your friends and other people your age?