STUDENT PERCEPTION OF THE LEGAL AND NON-LEGAL CONSEQUENCES
OF DRINKING AND DRIVING: A DETERRENCE-BASED APPROACH

A Thesis

Presented to the faculty of the Division of Criminal Justice
California State University, Sacramento

Submitted in partial satisfaction of
the requirements for the degree of

MASTER OF SCIENCE

in

Criminal Justice

by

Ricardo Jose Corona

FALL
2012
STUDENT PERCEPTION OF THE LEGAL AND NON-LEGAL CONSEQUENCES
OF DRINKING AND DRIVING: A DETERRENCE-BASED APPROACH

A Thesis

by

Ricardo Jose Corona

Approved by:

__________________________________, Committee Chair
David H. Swim, D.P.A.

__________________________________, Second Reader
Timothy A. Capron, Ph.D.

__________________________________
Date
Student: Ricardo Jose Corona

I certify that this student has met the requirements for format contained in the University format manual, and that this thesis is suitable for shelving in the Library and credit is to be awarded for the thesis.


Yvette Farmer, Ph.D.  

Date

Division of Criminal Justice
Abstract

of

STUDENT PERCEPTION OF THE LEGAL AND NON-LEGAL CONSEQUENCES
OF DRINKING AND DRIVING: A DETERRENCE-BASED APPROACH

by

Ricardo Jose Corona

Statement of the Problem

A gap remains in research regarding public perception of the consequences of drinking and driving. Using perceptual deterrence research, this study aimed to narrow this gap by exploring the subjects’ perceptions of the legal and non-legal consequences of driving under the influence. Specifically, this study aimed to examine the perceived deterrence strength of these consequences and their relationship to one’s self-reported drinking and driving behavior.

Sources of Data

The data were sourced through a survey handout given to students of California State University, Sacramento.

Conclusions Reached

This research reveals the subjects’ perceptions of the non-legal consequences of drinking and driving are slightly more favorable as deterrents than the legal ones. Also, this study supports its hypothesis that the more the subject favors the individual
consequences of drinking and driving as deterrents, the less drinking and driving behavior they self-report.

____________________________________, Committee Chair
David H. Swim, D.P.A.

____________________________________
Date
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>List of Tables</th>
<th>viii</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter</td>
<td></td>
</tr>
<tr>
<td>1. DRINKING AND DRIVING: A COMPLEX PROBLEM</td>
<td>1</td>
</tr>
<tr>
<td>2. RELEVANT RESEARCH</td>
<td>5</td>
</tr>
<tr>
<td>Terms and Definitions</td>
<td>5</td>
</tr>
<tr>
<td>Brief Historical Analysis</td>
<td>5</td>
</tr>
<tr>
<td>Control and Prevention: Legal Strategies</td>
<td>10</td>
</tr>
<tr>
<td>Control and Prevention: Non-legal Strategies</td>
<td>15</td>
</tr>
<tr>
<td>Deterrence in Theory and Practice</td>
<td>18</td>
</tr>
<tr>
<td>Legal and Non-legal Consequences, Public Perception, and Perceived Deterrence</td>
<td>20</td>
</tr>
<tr>
<td>3. METHODOLOGY</td>
<td>24</td>
</tr>
<tr>
<td>Research Design</td>
<td>24</td>
</tr>
<tr>
<td>Study Population</td>
<td>25</td>
</tr>
<tr>
<td>Data Source and Collection</td>
<td>25</td>
</tr>
<tr>
<td>Analysis Procedures</td>
<td>25</td>
</tr>
<tr>
<td>Strengths and Limitations of the Study</td>
<td>26</td>
</tr>
<tr>
<td>4. PRESENTATION AND ANALYSIS OF THE FINDINGS</td>
<td>30</td>
</tr>
<tr>
<td>5. SUMMARY, RECOMMENDATIONS, AND CONCLUSIONS</td>
<td>43</td>
</tr>
</tbody>
</table>
Important Findings ..................................................................................................................43

Implications for Theory Building and Future Research .................................................44

Implications for Practice: A Public Campaign-based Approach ...............................47

Conclusion .................................................................................................................................49

Appendix. Survey ....................................................................................................................51

References .................................................................................................................................53
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Tables</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. General Reported DUI Behavior</td>
<td>30</td>
</tr>
<tr>
<td>2. General Reported Perceptions of Consequences as Deterrents to DUI</td>
<td>32</td>
</tr>
<tr>
<td>3. Perception of Breaking the Law and Self-Reported DUI Behavior</td>
<td>35</td>
</tr>
<tr>
<td>4. Perception of Death to Self and Self-Reported DUI Behavior</td>
<td>35</td>
</tr>
<tr>
<td>5. Perception of Death to Others and Self-Reported DUI Behavior</td>
<td>36</td>
</tr>
<tr>
<td>6. Perception of Police Presence and Self-Reported DUI Behavior</td>
<td>36</td>
</tr>
<tr>
<td>7. Perception of Shame and Self-Reported DUI Behavior</td>
<td>37</td>
</tr>
<tr>
<td>8. Perception of Arrest and Self-Reported DUI Behavior</td>
<td>37</td>
</tr>
<tr>
<td>9. Perception of Jail and Self-Reported DUI Behavior</td>
<td>38</td>
</tr>
<tr>
<td>10. Perception of Losing License and Self-Reported DUI Behavior</td>
<td>38</td>
</tr>
<tr>
<td>11. Perception of Fines and Self-Reported DUI Behavior</td>
<td>39</td>
</tr>
<tr>
<td>12. Perception of Checkpoints and Self-Reported DUI Behavior</td>
<td>39</td>
</tr>
<tr>
<td>13. Spearman Correlation Coefficient: DUI and Perception of Consequences</td>
<td>42</td>
</tr>
</tbody>
</table>
Chapter 1

DRINKING AND DRIVING: A COMPLEX PROBLEM

The problem of drinking and driving is evident throughout the world and has risen through the existence of two major and influential social practices. These two practices are the consumption of alcohol and the use of motor vehicles. Alcohol has long been an integral part of society dating back to the ancient world. On the other hand, the use of motor vehicles is a relatively recent development (Ross, 1982). Before the introduction of these large and powerful machines, society was perhaps less at risk. Unfortunately, there is no simple solution for the problems caused by the abuse of alcohol in connection with operating motor vehicles.

Today, driving under the influence of alcohol is a very real and significant problem within American society. There have been thousands of injuries and deaths related to drinking and driving within the United States. According to the latest available figures of the National Highway Traffic Safety Administration (2012), in 2010, 33,308 people died of automobile-related accidents. Of those deaths, 10,228 of them were related to alcohol where the driver had a blood-alcohol content (BAC) of 0.08 or higher. This number accounts for a staggering 31% of total traffic deaths. Of those 10,228 people, 1,721 (17%) were passengers, 1,151 (11%) were occupants of other vehicles, and 729 (7%) were non-occupants (National Highway and Traffic Safety Administration [NHTSA], 2012).
Furthermore, according to the California Department of Motor Vehicles and its latest annual report in 2011 entitled, *Annual Report of the California DUI Management System*, alcohol-related traffic accidents and deaths in California have very slowly but steadily increased over the past decade. In 2000, there were 181,336 arrests for DUI, 30,971 alcohol-related injuries, and 1,233 alcohol-related traffic fatalities. A decade later, in 2010, there were 195,879 arrests, 24,343 alcohol-related injuries, and 1,355 alcohol-related traffic fatalities. These injuries accounted for 10.6% of all traffic injuries compared to 10.2% in 2000. These fatalities accounted for 39.1% of all traffic deaths in 2010 compared to 33.1% in 2000. However, it is important to note there had been a 15.1% decrease in these fatalities from 2009 to 2010 marking a decreasing trend of four years.

Also, in 2010, of the total number of collision fatalities, the percentage of alcohol-involved fatalities decreased from 41.1% in 2009 to 39.1% in 2010. Furthermore, the number of persons injured in alcohol-involved collisions decreased by 6.6% in 2010, following a decrease of 8.4% in 2009. Finally, DUI arrests decreased by 6.1% in 2010, following a decrease of 2.9% in 2009 and increases of 5.4% in 2008, 3.4% in 2007, and 9.4% in 2006. The DUI arrest rate declined by 6.5% in 2010 following a decline of 2.9% in 2009 (California, Department of Motor Vehicles [CDMV], 2011). Though there seems to be an overall trend of decline in the past few years, the numbers still remain well above where they were a decade ago. Therefore, according to these statistics provided by the NHTSA and CDMV, it remains obvious that driving while under the
influence of alcohol has remained a significant social problem within the United States and in particular, in the state of California.

It is evident the phenomenon of drinking and driving certainly needs a significant amount of attention to address the source of the issue. Lawmakers and policymakers are in a constant battle with creating and regulating solutions and programs in dealing with this prevalent matter. However, the phenomenon of driving under the influence of alcohol remains strong.

Past and current literature involving the topic of driving under the influence consistently revolves around two important but non-exhaustive themes: prevention and control (Blackman, Fell, Fisher, Tippetts, & Voas, 2009; Coben & Larkin, 1999; Holder & Voas, 1997). Prevention and control of drinking and driving are indeed the ultimate goal of reducing drinking and driving behavior. However, there remains a consistent gap in the literature with regard to such prevention and control. This gap involves the crucial and current public perception of the consequences of drinking and driving. If we are to successfully combat drinking and driving, it is important to take into account the public’s perceptions of the consequences of drinking and driving as these perceptions may have potential for deterring such behavior.

Therefore, the purpose of this study is to examine the social problem of drinking and driving through the lens of perception. Using the basis of the theory of deterrence, subjects’ perceptions of the consequences of drinking and driving are analyzed as potential deterrents to their drinking and driving behaviors. Therefore, the question
remains as follows: what is the state of the public’s perceptions regarding the consequences toward drinking and driving? However, because this study is small and non-randomized in nature, it may only examine the state of the subjects’ perceptions and, therefore, may not be generalized to the public. Nonetheless, the findings of this study may provide potential for future research and solutions regarding drinking and driving behavior and possible new policies and procedures that can be implemented in regard to the deterrence effects of the public’s perception of the consequences. Such solutions will be critical in combating drinking and driving behaviors.

Furthermore, this study is not without its limitations. It is important to discuss any limitations to determine the accuracy, validity, and reliability of findings. The most significant limitations of the study, as mentioned, are its small sample size and non-random sampling technique. Such limitations are further examined and discussed in the analysis segment. Also, the method of the study is examined and outlined in greater detail in the methodology segment.

The remainder of the study is organized into several sections. First, the issue and phenomenon of drinking and driving and its behavior is examined through a review of relevant literature. Second, from review of the literature, a theoretical basis is drawn. Third, from theory, a method of research is displayed. Next, analysis and results of the data are detailed. Finally, the study’s limitations as well as implications for future research and solutions are explored.
Chapter 2

RELEVANT RESEARCH

This literature review establishes a brief historical analysis of drinking and driving as well as past and current prevention and control of drinking and driving behavior, as prevention and control remain the two most prevalent themes affecting the subject of drinking and driving. With analysis of such literature, perceptions of the consequences of drinking and driving behavior are introduced. A theoretical framework is established under the theory of perceptual deterrence. The goal is to determine where perceptions of the consequences of drinking and driving stand, to what degree, and if these perceptions have potential to deter drinking and driving behavior.

Terms and Definitions

First, it is important to establish terms relative to this study. For the remainder of this research, driving under the influence of alcohol, either in a legal or illegal context is referred to as DUI. Drinking and driving behavior is referred to as DUI behavior.

Brief Historical Analysis

There are many varieties of both alcohol abuse and driving a vehicle. Therefore, there are many differing aspects of the overall problem. For example, a chronic alcoholic poses different control problems than those presented by the social drinker. The bar that offers its patrons fewer alternatives to driving home by vehicle creates different control and preventative problems than a campus pub that allows its patrons to simply walk home to their nearby dormitories. In the case of the chronic alcoholic, considerable research
shows it may be impossible to deal with a person’s abuse of alcohol with a motor vehicle without also dealing with the person’s abuse in other contexts (Ross, 1982). In the case of the social drinker, perhaps it is more of a cultural issue in which alcohol is simply a traditional part of society. Therefore, DUI and DUI behavior are issues that cannot be handled lightly since there is no one simple solution and there are several sources from which it may be enabled.

Popular awareness that the abuse of alcohol leads to motor vehicle collisions was established in the early 20th century. However, emphasis on this problem involved less of it on the tragic characteristic of DUI behavior and more of it on a humoristic side, such as in cartoons and other elements of fiction (Ross, 1982). Accordingly, DUI and its behavior were somewhat shrugged off as simple facts of life that caused little concern.

During this point in time, a small scientific community who had awareness of the issue of both DUI and DUI behavior were in the early stages of unraveling the physiology of alcohol and its properties, such as its metabolism and effects on the brain. In 1938, researchers increasingly turned their attention to quantifying and characterizing the real effects of alcohol on motor vehicle operation. By the early 1960s, the outlines and details of alcohol use as a real cause of motor vehicle accidents became well established (Ross, 1982).

Furthermore, the following seven findings have repeatedly been confirmed through studying DUI behavior throughout the early and latter parts of the 20th century and are of several types.
1. Drivers who have substantial blood-alcohol concentrations are more often responsible for the accidents in which they are involved as opposed to other drivers. Also, their chances of being in accidents and being responsible for them increase disproportionately with higher blood-alcohol concentrations (Ross, 1982).

2. Accidents in which alcohol plays a role tend to be more severe than those in which it does not. Accordingly, the more severe the accident, the greater the likelihood that alcohol was involved.

3. The majority of drivers involved in serious and fatal accidents, to which their own consumption of alcohol contributed, have blood-alcohol concentrations of 0.1% or higher.

4. On average, about 90% of drivers operating vehicles in the United States have not been consuming alcohol to any measurable extent. Another 5% have blood-alcohol concentrations in a low range, between zero and 0.05%.

5. Individuals arrested for DUI or hospitalized for DUI-related incidents are from the representative sample of the general population. Therefore, the more alcohol is used by a specific group within the population, the greater their overrepresentation is.

6. Adult pedestrians fatally injured by motor vehicles also have higher blood-alcohol concentrations much more often than other pedestrians.
7. Although large amounts of alcohol must be consumed to reach 0.1%, surveys in the United States have found that as many as 10% of all drivers have blood-alcohol concentrations that match or exceed the illegal amount on weekend nights (Ross, 1982).

Again, these seven research findings were common among early studies regarding alcohol consumption and DUI.

It is evident that throughout the 1900s, the phenomenon of DUI became increasingly researched and studied, and that much of the research delivered similar results and themes as to its effects on motorists. As the scientific community continued to study alcohol and its effects on operating motor vehicles, they became increasingly more aware of the problem and its potential for disaster. However, it was not until the latter part of the 20th century that the American public would themselves become much more concerned and aware of DUI and DUI behavior as a significant problem.

In the early 1980s, there were several social movements that came about to combat DUI behavior and create a higher public awareness of the DUI problem. The social movements took control of the definition of alcohol problems and they managed to make DUI a major public concern (Reinarman, 1988). Movements, such as Mothers Against Drunk Driving (MADD), did not come about due to a rise in the incidence or prevalence of drunk driving or accidents believed to be connected, but rather through the fact that the injustices of DUI had long remained an issue and they had never been treated seriously by legislatures and courts (Reinarman, 1988). Despite the fact that the late
1960s and early 1970s brought about a variety of DUI countermeasures increasing the arrest rates of DUI, it was not until the early 1980s the concern and problem of DUI was brought into a public policy spotlight (Reinarman, 1988). Thus, DUI has long been a part of American culture and, arguably, always an unacceptable one. However, for several years, before the anti-DUI movement of the 1980s, it was treated as merely a fact of life rather than as a significant social problem.

With the rise of movements such as MADD, the most substantive impact was on law and public policy. One of the most prevalent of those changes was the increase of the minimum drinking age to 21 in all states. More than 230 new anti-drunk driving laws were passed at the local level (Reinarman, 1988). All 50 states toughened their laws and policies against DUI behavior through such consequences as mandatory jail time, raised fines, suspension of licenses, and the implementation of standards for driving with certain levels of blood-alcohol content (BAC) as criminal offenses. Under the momentum of this era in anti-DUI reform, several new statutes were passed including server liability laws and bans on happy hours (Reinarman, 1988). Today, there remain several laws and policies geared toward punishing and preventing DUI behavior. However, combating the behavior may be viewed better through a social window of understanding.

According to Walker (2006), the problem of DUI is not confined to a few dangerous people but rather the phenomenon of driving after drinking is fairly common. It is estimated that every year, about 20% of all drivers drive after drinking. Furthermore, because about 20-30% of people do not drive at all, the percentage of drinkers who drive
after drinking is higher than 20% (Walker, 2006). The point here is that DUI is a common social phenomenon within society where driving is universal and drinking is an acceptable social custom. Therefore, combating DUI behavior must include the notion that it cannot be assumed that only a few people are responsible.

The public became increasingly more aware of the problem of DUI and DUI behavior in the late 20th century. As a result, more and more policies, laws, and programs came about to combat a freshly viewed social problem. Over time, many of the new anti-DUI implementations were researched as to their actual effectiveness on DUI prevention and arrest. In the next section, such research is explored.

**Control and Prevention: Legal Strategies**

There are two major themes in past and current literature regarding DUI and DUI behavior: control and prevention. This section explores relative research regarding these major themes. Most notably, the effectiveness of DUI controls and preventions from both legal and non-legal strategies will be discussed.

The major legal approaches to controlling and preventing the DUI phenomenon are implementing new laws and changing existing ones, increasing punishment, and making legal consequences harsher. As programs such as MADD originated in the early 1980s and as public awareness of the DUI problem grew, several laws and policies were implemented and changed throughout the United States. One of the most notable, as previously mentioned, was the increase in the drinking age to 21 years.
Minimum legal drinking age laws went through several changes in the 20th century. Prior to 1988, each state was given its own ability to establish its minimum legal drinking age. As a result, several states had adopted ages as low as 18 (Blackman et al., 2009). It was not until 1988, that every state had adopted the minimum legal drinking age of 21. According to several studies, this increase in the legal drinking age actually helped decrease the instance of DUI arrests and fatal collisions. For instance, according to Blackman et al. (2009), the implementation of laws directed at youth under the age of 21 and certain laws targeting all drivers significantly reduced the rates of motor vehicle fatalities by drivers under the age of 21. In particular, the laws that showed the most significant effects were the raising of the minimal legal drinking age to 21 as well as laws regarding possession and purchase of alcohol, loss of license, and zero tolerance on blood-alcohol levels among young motorists (Blackman et al., 2009).

Additionally, according to a study by Hellinga, Kirley, and McCartt (2010), it too had similar results. The study examined trends in alcohol consumption and alcohol-related collisions among people under the age of 21 within the United States as well as the effects of the minimum drinking age laws. According to this study, surveys tracking alcohol consumption among high school students and young adults found that drinking declined since the late 1970s with most of the decline occurring by the early 1990s. It was during this period that all of the states were either establishing or reinstating a minimum legal drinking age of 21 (Hellinga et al., 2010). The researchers found that among fatally injured drivers between the ages of 16 and 20, the percentage of youth with
positive blood-alcohol content declined from 61% in 1982 to 31% in 1995 (Hellinga et al., 2010).

Furthermore, the addition of laws making it illegal to drive with an established amount of blood-alcohol content have also been shown to decrease DUI rates and behavior. In the 1970s and 1980s, many states began adopting laws making it illegal to drive with a blood-alcohol content of 0.1%. Studies that were carried out before and after the enactment of these laws revealed significant decreases in traffic accidents and fatalities (Blackman et al., 2009). For instance, by the 1990s, many states began to lower the blood-alcohol content limit even further to 0.08%, and by 2003, all 50 states implemented the 0.08% limit (Fell, Nichols, Tippetts, & Voas, 2005).

Accordingly, studies once again have shown that the reduction in the blood-alcohol content limit from 0.1% to 0.08% has been effective in reducing alcohol-related traffic fatalities. For instance, according to a 2005 study regarding the effectiveness of laws reducing the legal limit of blood-alcohol content to 0.08%, by doing so, the instances of fatal collisions were lessened. Using a time-series analysis of DUI offenders in fatal collisions in 19 states between the years of 1982 to 2000, the study found that the number of DUI drivers in fatal collisions decreased in 16 of the 19 states after the 0.08% law was adopted in their respective states. Nine of the 16 that showed decreases were significant. Furthermore, the reduction was greater in the states that implemented license revocation and frequent sobriety checkpoints. The analysis further suggested that 947 lives might have been saved had all 50 states adopted the 0.08% law by the year 2000.
(Fell et al., 2005). Other laws, such as license revocation laws in which one’s license may be immediately revoked upon having a blood-alcohol content above the limit, as well as seat belt laws requiring motorists to wear seat belts at all times when operating a motor vehicle or an officer can stop the vehicle, have also shown to reduce alcohol-related motor accidents and fatalities (Blackman et al., 2009).

Kraus and McArthur (1999) examined whether administrative per se laws, mainly license revocation upon arrest and after conviction for DUI, had an effect on DUI recidivism using three separate studies. In one study involving three states over a period of three years, it was found that recidivism rates in one state for DUI offenders, whose licenses were revoked, decreased by about one-third in comparison with recidivism rates among their cohort that had not yet received such punishment. The two other states did not experience any change in recidivism (Kraus & McArthur, 1999). A second study involved under this research found that drivers whose licenses were suspended under administrative per se were 39% less likely than their cohorts to be rearrested within the first year for DUI. Finally, the third study under this research found that both first and repeat offenders of DUI with license revocation were 34% less likely to be involved in a subsequent motor vehicle collision within the first year compared to those in their comparison cohort. Furthermore, these drivers were 21% less likely to be involved in additional drunk driving arrests (Kraus & McArthur, 1999).

A more recent study conducted in 2007 had similar results. In a longitudinal study by Maldonado-Molina and Wagenaar (2007), analysis of data collected among 46
states between 1976 and 2002 revealed that license suspension policies have significantly reduced alcohol-related fatal collisions by 5%, totaling at least 800 lives saved per year in the United States. More so, driver’s license suspension laws have similar effects on drivers of all drinking levels, including drivers below the legal limit of blood-alcohol content and those at extreme levels above it (Maldonado-Molina & Wagenaar, 2007).

Other legal prevention and control methods include fines, incarceration, and punishments, such as mandating ignition interlock devices. Coben and Larkin (1999) researched six studies regarding the effectiveness of ignition interlock systems on reducing DUI recidivism. Based on their analysis, five of the six studies showed ignition interlocks were in fact effective in reducing DUI recidivism rates. The effects in these five studies were significant and ranged from 15% to 69% in the participants’ reduction in rearrests for DUI compared to the control group who did not have ignition interlocking devices (Coben & Larkin, 1999). As a result, this study found that ignition interlock devices had an effect on reducing recidivism rates among DUI offenders during the time period in which their ignition interlock systems were in place.

An additional study (Fulkerson, 2009) conducted involved monthly data reports from the state of Arkansas regarding ignition interlock device data. During a period of four years from 1995 to 1999, Fulkerson (2009) studied 1,945 DUI offenders required by the state of Arkansas to have ignition interlock devices installed for an average period of 6.48 months. The study found that 44.6% of the subjects were prevented from driving while legally intoxicated (BAC over 0.08%) at least once. Eight percent had 6 to 18 such
legal violations. Also, over 20% of the subjects had violations at a blood-alcohol level of 0.16% or higher (Fulkerson, 2009). This particular study concluded that ignition interlock systems are effective in preventing DUI behavior, however, not without some limitations. As studies have shown, the policy and law enactment have had a positive impact on DUI and DUI behavior. While motor accidents, DUI arrests, and related fatalities have decreased following the implementation of them, other non-legal strategies have been shown to affect DUI behavior as well.

**Control and Prevention: Non-legal Strategies**

Non-legal strategies for controlling and preventing DUI and its behavior come in several forms. Some of the more prevalent strategies include alcohol treatment programs, anti-DUI organizations such as MADD, and increasing public awareness. First, Mothers Against Drunk Driving (MADD) is perhaps the most notable and influential of anti-DUI organizations within the United States. The following measures are all elements of MADD’s agenda and most have been implemented in several states: citizen reporting systems, elimination of plea-bargaining for DUI offenses, computerized criminal and driving record retrieval systems for police cars, reduction of the blood-alcohol content standard from 0.1% to 0.08%, implied consent from all licensed drivers for blood-alcohol testing, immediate license suspensions for offenders, higher minimum fines, mandatory jail sentences, sobriety checkpoints for random stops, server liability laws, and a nationwide minimum drinking age of 21 (Reinarman, 1988).
One of MADD’s most notable strategies was the use of a Victim Impact Panel (VIP). The objective of a VIP is to expose DUI offenders to the pain and suffering caused by drunk driving without necessarily condemning the DUI offender (Dean, James, & Stuart, 2003). According to Dean et al. (2003), 33.5% of its control group was rearrested for DUI within five years; however, only 15.8% of the group exposed to a VIP was rearrested over the same period. Using discrete-time event history analysis, results also revealed that VIPs are associated with a 55.7% overall decrease in DUI rearrests (Dean et al., 2003). Despite such a study, it may be difficult to measure and assess MADD’s direct impact upon DUI behavior overall, as far as measuring DUI rates and accidents; however, MADD is commonly credited with increasing both the quality and quantity of anti-DUI weapons.

Second, increasing public awareness of the DUI issue is now one of the latest strategies for combating the behavior. One strategy is through the use of public forums such as media outlets. In a study undertaken by Holder and Voas (1997), a program was evaluated involving the implementation of several DUI countermeasures in three experimental communities that included Northern California, Southern California, and South Carolina. Under the program, an intensified enforcement was designed to deter potential DUI offenders by increasing their perception of the risk of being arrested through the use of social media and increased officer enforcement. The program implemented several aspects of countering DUI behavior. These aspects included media advocacy training and technical assistance, increased DUI news coverage, increased
police officer hours for DUI enforcement, greater use of breathalyzer equipment, increased officer training, and more checkpoints. With these combined efforts, the results yielded an increase in public perceived risk of arrest and subsequently less drinking and driving, including a decrease in alcohol-involved traffic collisions in the experimental communities compared to the control community (Holder & Voas, 1997).

In a similar study, Clapp et al. (2005) compared students from two universities where the experimental university students were exposed to DUI prevention intervention that included a social marketing campaign, a media advocacy campaign and increased law enforcement, such as roving DUI patrols. The results indicated the self-reported DUI decreased significantly from pre-test to post-test at the intervention school, while rates at the comparison campus remained stable. The campus-intervention interaction was statistically significant, suggesting the campaign led to the observed change in DUI (Clapp et al., 2005). Therefore, such a program has shown that increasing public perception of the risk of a DUI arrest along with police presence decreases, at least for a time, DUI behavior.

According to the research from the past several decades, as discussed, with the establishment of legal and non-legal strategies that have been implemented across the United States over time, laws, programs, and interventions have an overall positive effect on DUI and DUI behavior. Some programs and laws have shown to affect DUI and its behavior at differing levels; however, generally each affect the incidence of DUI and DUI behavior by lowering their occurrences and related fatalities. Concurrently, it may follow
then that since such laws, policies, practices, and campaigns actually decrease DUI behavior, perhaps public perceptions of the consequences of DUI actually deter motorists from DUI behavior as well. In the following section, the theory of deterrence will be discussed. Additionally, such theory will be related to the research at hand.

**Deterrence in Theory and Practice**

Deterrence theory is based on the general model proposing that human choice is based on the rational calculations of costs and benefits (Bernard, Snipes, & Vold, 2002). These calculations are made when a choice to act or not to act and a cost to benefits scenario presents itself (Bernard et al., 2002). Therefore, if the cost of an act outweighs its benefits, then by this theory, rational choice may make one more inclined to refrain from the act. On the other hand, if the benefit of the act outweighs the costs, then this theory would dictate that one may be more inclined to act. Furthermore, deterrence theory also states that individuals will refrain from committing an act if they fear the potential consequences of it (Homel, 1988). Therefore, if a certain act entails certain perceived consequences, the fear of those consequences can prevent an individual from committing such act.

Under the theory of deterrence, there are several forms. In regard to criminal deterrence, the two broadest and most popular forms are individual and general. Individual deterrence, also known as specific and special deterrence, refers to the impact of consequences on the offender. It involves the process by which an individual offender, whom has been punished by an act, refrains from further offending behavior for fear of
further consequences (Stafford & Warr, 1993). Furthermore, specific deterrence not only operates through an individual’s personal experience with punishment but through their experiences with punishment avoidance as well. General deterrence refers to the behavior that can be expected of people if they are not caught and punished for offensive behavior. It invokes fear of the threat that unpleasant consequences will be attached to a particular behavior. Additionally, general deterrence operates through an individual’s indirect experiences such as through the learning of another’s direct experiences or through the media (Stafford & Warr, 1993).

Deterrence theory is vital and fundamental to criminal punishment and policy. In the criminal aspect of deterrence, punishments should be proportional to the seriousness of the offenses so the cost of the crime outweighs its potential reward (Gibbs, 1975). Potential offenders would then be deterred, for example, through a person’s rational calculation that the potential cost of committing a particular crime outweighs the potential reward for committing the crime (Bernard et al., 2002). Furthermore, an individual’s perceived fear of the consequences of a criminal act would potentially deter that individual from acting (Homel, 1988). Therefore, in the case of this study, the general-based deterrence theory, perceptual deterrence, will be used, whereby the perceived potential for the legal and non-legal consequences of DUI behavior may have possible deterrent effects on one’s DUI behavior.
Legal and Non-legal Consequences, Public Perception, and Perceived Deterrence

A significant amount of DUI countermeasures that have been discussed involve deterrence theory. These countermeasures have ranged from conventional legal ones, such as blood-alcohol testing, arrest, incarceration, fines, police checkpoints, and license revocation, to non-legal countermeasures such as anti-DUI programs like MADD and proactive-based solutions such as increased police presence and media campaigns.

Evidence has shown that legal consequences have had positive effects on DUI behavior and the threat of legal consequences can deter motorists from such behavior (Nagin & Pogarsky, 2001). Legal consequences such as license revocation and incarceration have effectively reduced motorists from committing DUI offenses. However, less is known about the public’s perceptions of these legal consequences and the degree to which, if any, the public’s perceptions deter them from DUI offending behavior. According to Homel (1988), deterrent developments oscillate over time. This suggests public perception of DUI consequences change as well. Therefore, a current need exists to evaluate today’s public perceptions. For the purpose of this study, the legal consequences of DUI and DUI behavior to be introduced as perceptual deterrents are: apprehension or arrest, incarceration, license revocation, fines, and police checkpoints. It is important to note this is not an exhaustive list, as, for example, the study does not include other legal consequences such as probation, ignition interlock devices, and mandated community service. Therefore, due to the small nature of this study, only a handful of legal consequences will be researched.
Conventionally, legal consequences have been used to combat DUI behavior. However, there is an inherent and fundamental problem in measuring the legal consequences and their deterrent impact on one’s behavior. The problem is that other extralegal influences can affect behavior as well (Gibbs, 1975). Traditional deterrence theory does not include influences outside of legal factors and studies have suggested that outside influences also need to be taken into account. In recent decades, an increasing amount of research has begun to explore extralegal factors and the connection between non-legal consequences and deterrents (Nagin & Pogarsky, 2001). As a result, studies have shown that legal consequences alone do not account entirely for deterrence (Nagin, 1998). Studies have suggested similar findings that non-legal consequences and influences have more of a deterrent impact upon offending behavior than legal consequences (Berger & Snortum, 1986). For example, in an earlier study conducted by Johnson and Meier (1977), the importance of extralegal factors in the production of conformity was emphasized. The study illustrated its approach with the test of the deterrence doctrine upon marijuana use among users and non-users in a jurisdiction that had severe penalties in place. As a result, it found the law received support from several extralegal inhibitory influences. In fact, the study found that when compared to the controlling effects of the legal factors, the extralegal influences were more important (Johnson & Meier, 1977).

Non-legal consequences and influences that have been explored in perceptual deterrence research include fear or threat of social consequences and moral commitment
to the norm. First, studies have shown that social consequences, in the form of shame and embarrassment, can act as deterrents to non-compliance with the law (Bursik, Grasmick, & Kinsey, 1991). In a study lead by Fukushima, Kelley, Payne, and Spivak (2009), the researchers conducted a survey of 500 full-time undergraduates at a college campus that recently instituted a no alcohol policy on university grounds. Research revealed that while perceived severity of the sanction did not predict deterrence against future violations of the dry campus ban, the informal deterrent of shame lowered projected offending. Second, according to Gibbs (1975), moral commitment to the norm oftentimes serves as a deterrent to offending behavior. People conduct their behavior according to what is considered normal within their society. Breaking the law, for instance, is considered to be outside the norm of behavior, throughout the majority of society. Therefore, most citizens experience a moral commitment to the norm through abiding by lawful behavior (Gibbs, 1975).

Again, it is crucial the perceptions of non-legal consequences are studied in accordance with legal consequences as research has shown they are just as or even more effective in deterring crime. There are several non-legal consequences and influences involved in DUI behavior and a complete evaluation would be beyond the means of this study. Therefore, many will not be involved in this research. For the purpose of this study, the non-legal consequences of DUI and DUI behavior to be included as perceptual deterrence are: breaking the law, death or injury, police presence, and shame. Other non-
legal consequences of DUI not involved in this study may include loss of employment, increased insurance rates, and damaged property.

With the establishment of perceptual deterrence theory and in relation to the legal and non-legal consequences of DUI behavior, the following hypothesis is: The more the subjects agree that the individual consequences of DUI deter them, the less DUI behavior they will self-report. This is an important area to study because research in the field of DUI behavior should direct attention to the critical account of public perception of the consequences of DUI. Therefore, if we can better understand the potential for deterrent affects that consequences have on DUI behavior, we can better combat it. Grasping the nature of one’s perception regarding the deterrent effects of the consequences of DUI will allow for a more widespread understanding of the issue and a more joint effort in initiating action and appropriate proactive techniques and legislation.
Chapter 3

METHODOLOGY

Research Design

This study used a cross-sectional survey research design with the lack of the ability to randomize. The research design was variable-oriented, quantitative, and explanatory. The researcher then sought to explain the relationship between subjects’ perceptions of the individual consequences of DUI and self-reported DUI behavior using quantitative data. The study involved a bivariate analysis explaining associations between the independent and dependent variables, which are detailed in the following sections.

Independent Variable

Regarding the hypothesis of this study, the independent variable is the amount the subjects agree that the individual consequences of DUI deter them. The term “consequence” involves 1 of 10 categories. The following five categories are considered the non-legal consequences: breaking the law, death or injury to yourself, death or injury to others, visible police presence, and shame. The following five categories are considered the legal consequences: arrest, jail time, losing your license, fines, and police checkpoints.

Dependent Variable

The dependent variable of this study shall be the amount of DUI behavior the subjects self-report.
Study Population

The study population was undergraduate students of California State University, Sacramento.

Sampling Technique

Due to the study’s limited scope and resources, this research involved a convenience survey. By nature, this survey was not randomized, and, therefore, cannot be generalized to the public. Prior to handing out the survey, a consent form was distributed to each student informing them the survey was completely voluntary and anonymous. Also, it informed them that by returning the survey to the researcher, they were giving their implied consent to its use. To maintain anonymity, no signatures were required. The survey was handed out to predetermined undergraduate classes during their respective class times.

Data Source and Collection

The data source was a convenience survey (see Appendix) asking a multitude of questions. It was completed during class times from which undergraduate classes were chosen. The researcher handed out and collected the surveys from each class the researcher chose for the study. The classes were chosen simply from a convenience standpoint. A total of 300 surveys were collected.

Analysis Procedures

The SPSS statistical software program was used to run and calculate all statistical analysis. This was a bivariate analysis and all variables were calculated using
percentages and further analyzed using the Spearman Correlation Coefficient. The
deterrence-based statements used the following model, “the threat of consequence x
deters/does not deter you from drinking and driving.” With the statements, there was a
Likert-type scale of five possible answers, “strongly disagree,” “disagree,” “neutral,”
“agree,” and “strongly agree.” The question regarding one’s DUI behavior, “how often
do you drive after drinking?”, used a Likert-type scale as well. The five possible answers
were “never,” “rarely,” “sometimes,” “often,” and “always.” Therefore, regarding the
independent variable, the amount that one agreed was based on his or her respective
answers using the first Likert-type scale. Regarding the dependent variable, the amount
that one drives after drinking was based on the respective answers using the second
Likert-type scale.

**Strengths and Limitations of the Study**

Survey research includes its share of both weaknesses and strengths and it is
important to recognize these. First, issues of validity will be discussed. One notable
weakness of survey research includes the fact that standardized questionnaire items may
represent the least common denominator in assessing respondents’ attitudes,
circumstances, and experiences (Maxfield & Babbie, 2005). The survey must be
designed to be at least minimally appropriate for all respondents, but in doing this, what
is most appropriate to many respondents may be missed. More so, survey research can
be inflexible, as usually it requires the initial study design to remain unchanged. Perhaps
new relevant variables would not be discovered. In addition, the survey format can
seldom deal with the context of social life. The researcher can rarely develop a feel for the total situation in which respondents are thinking and acting (Maxfield & Babbie, 2005). Also, survey research is subject to artificiality. For example, a person giving conservative or liberal answers in a questionnaire does not necessarily mean that person is conservative or liberal. Furthermore, surveys cannot measure social action but rather only collect self-reports of past experiences or potential experiences and hypothetical ones (Maxfield & Babbie, 2005). Therefore, in the case of this research, the survey was not exempt from such validity issues. However, this survey entailed certain strengths as well. It is then important to understand what strengths, as well as other weaknesses, were involved in the transmission of this survey and its findings.

The survey conducted in this research had safeguards against certain other potential validity issues. Each survey contained questions providing for the necessity of face validity, as there were questions providing reasonable measures of one’s perceptions to the deterrence of DUI consequences. Second, criterion-related validity was established. According to the hypothesis of this study, as respondents’ perceptions were expected to predict self-reported DUI behavior, certain survey questions regarding several deterrents should serve as measure that reflect criterion-related validity.

Regarding reliability, there cannot be any real safeguard against the accuracy of a respondent’s observations of past DUI behavior. It would then be difficult to judge the precision of such responses. The question becomes whether or not each observer provided objective data from the observations of past self-behavior. For example, one
may experience denial or simply forgetfulness of their behavior. However, with the use of an objective survey process, it is certain all respondents will at minimum be given the same exact approach to the surveys (Maxfield & Babbie, 2005). Also, surveys cannot exhibit subjective demeanors toward their respondents. On the other hand, live interviewers would cause for differing responses from the respondents due to different attitudes and demeanors of the interviewers (Maxfield & Babbie, 2005). In this case, the absence of an interviewer may safeguard against this issue since the survey was self-reported. Therefore, reliability is a strength of survey research.

One of the greater strengths of this survey is the fact that it is self-reported. Due to the nature of DUI behavior, DUI is an offense substantially under-reported by law enforcement and statistics. Self-report surveys are designed to ask people about crimes they may have committed. This particular self-report survey asked about DUI behavior. On one hand, respondents’ truthfulness and bias are obvious concerns, especially when being asked to disclose potential illegal behavior even when they have been assured anonymity. Also, they may deliberately lie or exaggerate their answers (Maxfield & Babbie, 2005). On the other hand, such a survey may be the best method for measuring DUI behavior that may otherwise go unnoticed.

Finally, one of the greater weaknesses of this study is the fact that it is non-randomized. Acquiring subjects by randomization allows for the study to be generalized to the public (Maxfield & Babbie, 2005). However, using a convenience survey, which is
not randomized, means it cannot be generalized. This obviously limits the analysis and, particularly, conclusions that can be drawn.

Again, this study was not without its limitations. However, as described, certain steps were taken to reduce them. Also, certain characteristics of this survey research allowed for its strengths. With the establishment of these strengths and weaknesses, the following chapter describes analysis of the data and findings.
Chapter 4

PRESENTATION AND ANALYSIS OF THE FINDINGS

There were exactly 300 subjects in this study. Of those 300, 289 (96%) participated in the survey. Of the 289 participants, 78 (27%) reported they did not consume any alcohol on any regular or irregular basis while 211 (73%) reported consuming alcohol (see Appendix for survey question 1). Of the 211 participants who reported consuming alcohol, 12 (6%) did not drive at all while 199 (94%) did drive (see Appendix for survey question 11). Therefore, of the 289 participants, 199 (69%) did consume alcohol as well as drive a vehicle. Furthermore, of those 199 participants, 112 (56%) reported some amount of DUI while 87 (44%) reported no amount of DUI.

Among the 112 who reported DUI behavior, 69 (62%) reported that they “rarely” DUI, while 28 (25%) reported that they “sometimes” DUI, 15 (13%) reported that they “often” DUI, and none reported that they “always” DUI (see Appendix for survey question 13).

Table 1

General Reported DUI Behavior

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>87</td>
<td>43.7</td>
<td>43.7</td>
<td>43.7</td>
</tr>
<tr>
<td>Rarely</td>
<td>69</td>
<td>34.7</td>
<td>34.7</td>
<td>78.4</td>
</tr>
<tr>
<td>Sometimes</td>
<td>28</td>
<td>14.1</td>
<td>14.1</td>
<td>92.5</td>
</tr>
<tr>
<td>Often</td>
<td>15</td>
<td>7.5</td>
<td>7.5</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>199</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>
The study limited its focus to only those participants who consumed alcohol and drove a motor vehicle but not necessarily DUI. The responses of the remaining subjects were not used since they did not do both. Therefore, this study focused upon those 199 of the 300 participants. Tables 2 displays the general results of the data given in frequencies and percentages while Table 3 through Table 12 present the data within bivariate cross tabulations. Furthermore, these ten tables reduce the given responses to the Likert-type scale-based questions where “strongly disagree,” “disagree,” “neutral,” “agree,” and “strongly agree” were narrowed to three categories: “favor,” “neutral,” and “non-favor.” Depending on the wording of the perception-based survey questions, “favor” may refer to either those who “strongly disagreed” and “disagreed” or to those who “agreed” and “strongly agreed.” The same may be said for the “non-favor” category. Additionally, the scale of “never,” “rarely,” “sometimes,” “often,” and “always” was narrowed to “No DUI” for “never” and “DUI” for the combined latter. Finally, within the tables, the consequences “police presence” and “losing license” are abbreviated as “P.O. Pres.” and “Lose Lic.”
Table 2

**General Reported Perceptions of Consequences as Deterrents to DUI**

<table>
<thead>
<tr>
<th></th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Break Law&lt;sup&gt;a&lt;/sup&gt;</td>
<td>83</td>
<td>56</td>
<td>32</td>
<td>21</td>
<td>7</td>
<td>199</td>
</tr>
<tr>
<td></td>
<td>41.7</td>
<td>28.1</td>
<td>16.1</td>
<td>10.6</td>
<td>3.5</td>
<td>100</td>
</tr>
<tr>
<td>Death Self&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0</td>
<td>13</td>
<td>22</td>
<td>50</td>
<td>114</td>
<td>199</td>
</tr>
<tr>
<td></td>
<td>0.0</td>
<td>6.5</td>
<td>11.1</td>
<td>25.1</td>
<td>57.3</td>
<td>100</td>
</tr>
<tr>
<td>Death Other&lt;sup&gt;a&lt;/sup&gt;</td>
<td>124</td>
<td>44</td>
<td>15</td>
<td>11</td>
<td>5</td>
<td>199</td>
</tr>
<tr>
<td></td>
<td>62.3</td>
<td>22.1</td>
<td>7.5</td>
<td>5.5</td>
<td>2.6</td>
<td>100</td>
</tr>
<tr>
<td>P.O. Pres.&lt;sup&gt;b&lt;/sup&gt;</td>
<td>7</td>
<td>9</td>
<td>14</td>
<td>62</td>
<td>107</td>
<td>199</td>
</tr>
<tr>
<td></td>
<td>3.5</td>
<td>4.5</td>
<td>7.0</td>
<td>31.2</td>
<td>53.8</td>
<td>100</td>
</tr>
<tr>
<td>Shame&lt;sup&gt;a&lt;/sup&gt;</td>
<td>79</td>
<td>46</td>
<td>30</td>
<td>30</td>
<td>14</td>
<td>199</td>
</tr>
<tr>
<td></td>
<td>39.7</td>
<td>23.1</td>
<td>15.1</td>
<td>15.1</td>
<td>7.0</td>
<td>100</td>
</tr>
<tr>
<td>Arrest&lt;sup&gt;b&lt;/sup&gt;</td>
<td>5</td>
<td>7</td>
<td>24</td>
<td>59</td>
<td>104</td>
<td>199</td>
</tr>
<tr>
<td></td>
<td>2.5</td>
<td>3.5</td>
<td>12.1</td>
<td>29.6</td>
<td>52.3</td>
<td>100</td>
</tr>
<tr>
<td>Jail&lt;sup&gt;a&lt;/sup&gt;</td>
<td>104</td>
<td>47</td>
<td>20</td>
<td>20</td>
<td>8</td>
<td>199</td>
</tr>
<tr>
<td></td>
<td>52.3</td>
<td>3.6</td>
<td>10.1</td>
<td>10.1</td>
<td>3.9</td>
<td>100</td>
</tr>
<tr>
<td>Lose Lic.&lt;sup&gt;b&lt;/sup&gt;</td>
<td>13</td>
<td>14</td>
<td>17</td>
<td>49</td>
<td>106</td>
<td>199</td>
</tr>
<tr>
<td></td>
<td>6.5</td>
<td>7.0</td>
<td>8.6</td>
<td>24.5</td>
<td>53.4</td>
<td>100</td>
</tr>
<tr>
<td>Fines&lt;sup&gt;a&lt;/sup&gt;</td>
<td>87</td>
<td>50</td>
<td>29</td>
<td>26</td>
<td>7</td>
<td>199</td>
</tr>
<tr>
<td></td>
<td>43.8</td>
<td>25.1</td>
<td>14.5</td>
<td>13.1</td>
<td>3.5</td>
<td>100</td>
</tr>
<tr>
<td>Checkpoint&lt;sup&gt;b&lt;/sup&gt;</td>
<td>6</td>
<td>18</td>
<td>25</td>
<td>60</td>
<td>90</td>
<td>199</td>
</tr>
<tr>
<td></td>
<td>3.0</td>
<td>9.0</td>
<td>12.6</td>
<td>30.2</td>
<td>45.2</td>
<td>100</td>
</tr>
</tbody>
</table>

*Note.* Refer to Appendix for survey questions numbered 13 and 18-27. <sup>a</sup>Where the phrase “does not deter” was used. <sup>b</sup>Where the phrase “deters” was used. “SD” refers to “strongly disagree.” “D” refers to “disagree.” “N” refers to “neutral.” “A” refers to “agree.” “SA” refers to “strongly agree.”

As shown in Table 3 through 12, among those who favored the deterrents to DUI, “police presence” had the strongest perception (85%), followed by “death to others” (84.4%) and “death to self” (82.4%). While, “breaking the law” (69.8%), “fines” (68.9%), and “shame” (62.8%) had by far the weakest perceptions. Overall, the non-legal consequences to DUI were perceived to be the strongest deterrents as the top three fell
within this category and only two fell within the bottom half. However, “shame,” the weakest non-legal deterrent was also by far the weakest among all as it also had the highest percentage (22.1%) not favoring it. The strongest perceived legal deterrent was “arrest” (81.9%) falling in at fourth among all.

Additionally, among those who did not favor the deterrents to DUI, the weakest non-favor was for “arrest” (6%), followed by “police presence” (8%) and “death to others” (8%). The deterrent with the strongest perception of non-favor was again, by far, “shame” (22.1%), followed by “fines” (16.6%) and “breaking the law” (14.1%). Overall, three of the top five deterrents that had the weakest amount of non-favorable perception were non-legal determents (“police presence,” “death to others,” and “death to self”). Again, these three were the strongest favorable perceived deterrents, thus further indicating the perceptual deterrent strength of non-legal consequences overall, while three of the top five that had the strongest amount of non-favor were legal consequences. Finally, among all the subjects who were neutral, “breaking the law” (16.1%) had the highest neutrality, followed by “shame” (15.1%) and “fines” (14.5%). The lowest was “police presence” (7%) followed by “death to others” (7.6%).

Furthermore, under the “favor” category, regarding the subjects who DUI, the same three consequences of “police presence” (48.8%), “death to others” (45.7%), and “death to self” (42.2%) again had the strongest perception. “Shame” (28.6%), “breaking the law,” (30.6%) and “fines” (32.2%) were again the weakest among those that DUI. However, among those that never DUI, “arrest” (41.2%) and “death to self” (40.2%)
were the strongest. Interestingly, “police presence” (36.2%) fell to the third weakest among this category while “checkpoints” (33.2%) was the lowest proceeded by “shame” (34.2%). “Breaking the law,” “shame,” “arrest,” and “fines” were stronger deterrents among those who did not DUI when compared to those who did. On the other hand, “death to self,” “death to others,” “police presence,” “jail,” “losing license,” and “checkpoints” were stronger among those who DUI when compared to those who did not. Finally, among those who did not favor the deterrents or were neutral, those who DUI had higher percentages in all 10 categories compared to those who do not DUI, indicating a generally weaker perception of the deterrents for those who DUI.
Table 3

Perception of Breaking the Law and Self-Reported DUI Behavior

<table>
<thead>
<tr>
<th>perceive as breaking the law</th>
<th>favor</th>
<th>non favor</th>
<th>neutral</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>39.2</td>
<td>3.0</td>
<td>1.5</td>
<td>42.7</td>
</tr>
<tr>
<td>Yes</td>
<td>30.6</td>
<td>11.1</td>
<td>14.6</td>
<td>66.3</td>
</tr>
</tbody>
</table>

69.8 14.1 16.1 100

Note. N is 199. Refer to Appendix for survey questions numbered 13 and 18.

Table 4

Perception of Death to Self and Self-Reported DUI Behavior

<table>
<thead>
<tr>
<th>perceive as death to self</th>
<th>favor</th>
<th>non favor</th>
<th>neutral</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>40.2</td>
<td>1.5</td>
<td>2.0</td>
<td>43.7</td>
</tr>
<tr>
<td>Yes</td>
<td>42.2</td>
<td>5.0</td>
<td>9.1</td>
<td>56.3</td>
</tr>
</tbody>
</table>

82.4 6.5 11.1 100

Note. N is 199. Refer to Appendix for survey questions numbered 13 and 23.
Table 5

*Perception of Death to Others and Self-Reported DUI Behavior*

<table>
<thead>
<tr>
<th>Perception of Death to Others</th>
<th>Favor</th>
<th>Non Favor</th>
<th>Neutral</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>38.7</td>
<td>3.0</td>
<td>2.0</td>
<td>44.4</td>
</tr>
<tr>
<td>Yes</td>
<td>45.7</td>
<td>5.0</td>
<td>5.6</td>
<td>56.3</td>
</tr>
<tr>
<td></td>
<td>84.4</td>
<td>8.0</td>
<td>7.6</td>
<td>100</td>
</tr>
</tbody>
</table>

*Note.* N is 199. Refer to Appendix for survey questions numbered 13 and 24.

Table 6

*Perception of Police Presence and Self-Reported DUI Behavior*

<table>
<thead>
<tr>
<th>Perception of Police Presence</th>
<th>Favor</th>
<th>Non Favor</th>
<th>Neutral</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>36.2</td>
<td>3.9</td>
<td>3.4</td>
<td>43.5</td>
</tr>
<tr>
<td>Yes</td>
<td>48.8</td>
<td>4.1</td>
<td>3.6</td>
<td>56.5</td>
</tr>
<tr>
<td></td>
<td>85.0</td>
<td>8.0</td>
<td>7.0</td>
<td>100</td>
</tr>
</tbody>
</table>

*Note.* N is 199. Refer to Appendix for survey questions numbered 13 and 26.
**Table 7**

*Perception of Shame and Self-Reported DUI Behavior*

| Perception of Shame |  
|---------------------|---|
| **DUI** | Favor | Non Favor | Neutral | Total |
| No | 34.2 | 6.5 | 3.0 | 42.7 |
| Yes | 28.6 | 15.6 | 12.1 | 56.3 |
| | 62.8 | 22.1 | 15.1 | 100 |

*Note.* N is 199. Refer to Appendix for survey questions numbered 13 and 27.

**Table 8**

*Perception of Arrest and Self-Reported DUI Behavior*

| Perception of Arrest |  
|----------------------|---|
| **DUI** | Favor | Non Favor | Neutral | Total |
| No | 41.2 | 1.0 | 1.5 | 43.8 |
| Yes | 40.7 | 5.0 | 10.6 | 56.3 |
| | 81.9 | 6.0 | 12.1 | 100 |

*Note.* N is 199. Refer to Appendix for survey questions numbered 13 and 19.
### Table 9

*Perception of Jail and Self-Reported DUI Behavior*

<table>
<thead>
<tr>
<th>Perception of Jail</th>
<th>Favor</th>
<th>Non Favor</th>
<th>Neutral</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>37.2</td>
<td>5.0</td>
<td>1.5</td>
<td>44.7</td>
</tr>
<tr>
<td>Yes</td>
<td>38.7</td>
<td>9.0</td>
<td>8.6</td>
<td>56.3</td>
</tr>
<tr>
<td></td>
<td>75.9</td>
<td>14.0</td>
<td>10.1</td>
<td>100</td>
</tr>
</tbody>
</table>

*Note.* N is 199. Refer to Appendix for survey questions numbered 13 and 20.

### Table 10

*Perception of Losing License and Self-Reported DUI Behavior*

<table>
<thead>
<tr>
<th>Perception of Losing License</th>
<th>Favor</th>
<th>Non Favor</th>
<th>Neutral</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>37.7</td>
<td>4.5</td>
<td>1.5</td>
<td>43.7</td>
</tr>
<tr>
<td>Yes</td>
<td>40.2</td>
<td>9.0</td>
<td>7.1</td>
<td>56.3</td>
</tr>
<tr>
<td></td>
<td>77.9</td>
<td>13.5</td>
<td>8.6</td>
<td>100</td>
</tr>
</tbody>
</table>

*Note.* N is 199. Refer to Appendix for survey questions numbered 13 and 21.
Table 11

Perception of Fines and Self-Reported DUI Behavior

<table>
<thead>
<tr>
<th>Perception of Fines</th>
<th></th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>DUI</td>
<td>Favor</td>
<td>Non Favor</td>
<td>Neutral</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>36.7</td>
<td>2.5</td>
<td>4.5</td>
<td>43.7</td>
</tr>
<tr>
<td>Yes</td>
<td>32.2</td>
<td>14.1</td>
<td>10.0</td>
<td>56.3</td>
</tr>
<tr>
<td>Total</td>
<td>68.9</td>
<td>16.6</td>
<td>14.5</td>
<td>100</td>
</tr>
</tbody>
</table>

*Note. N is 199. Refer to Appendix for survey questions numbered 13 and 22.*

Table 12

Perception of Checkpoints and Self-Reported DUI Behavior

<table>
<thead>
<tr>
<th>Perception of Checkpoints</th>
<th></th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>DUI</td>
<td>Favor</td>
<td>Non Favor</td>
<td>Neutral</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>33.2</td>
<td>3.0</td>
<td>7.5</td>
<td>43.7</td>
</tr>
<tr>
<td>Yes</td>
<td>42.2</td>
<td>9.0</td>
<td>5.1</td>
<td>56.3</td>
</tr>
<tr>
<td>Total</td>
<td>75.4</td>
<td>12.0</td>
<td>12.6</td>
<td>100</td>
</tr>
</tbody>
</table>

*Note. N is 199. Refer to Appendix for survey questions numbered 13 and 25.*

In further analysis of the relationship between reported DUI and perceptions, Table 13 displays the results of the Spearman Correlation Coefficient between self-reported DUI behavior and reported perceptions of the consequences of DUI as deterrents. Using data from Likert-type scale-based responses, the subjects’ amount of
favor for the individual consequences as deterrents were based on the following scale: “strongly disagree,” “disagree,” “neutral,” “agree,” and “strongly agree,” and coded as 1, 2, 3, 4, and 5, respectively. The scale measuring the subjects’ amount of DUI, again, was “never,” “rarely,” “sometimes,” “often,” and “always,” coded as 1, 2, 3, 4, and 5, in that order.

All but two deterrents (“police presence” and “checkpoints”) showed significant monotonic correlations. The highest Spearman rho correlation was established between “DUI” and “arrest.” A moderate negative correlation was found \( (\rho = -0.431, p < .01) \), indicating a significant relationship between the two variables. As favor for “arrest” as a deterrent increases, reported DUI decreases. The lowest correlation was established between “DUI” and “death to others.” A weak positive correlation was found \( (\rho = 0.283, p < .01) \), indicating a significant relationship between the two variables. As non-favor for “death to others” as a deterrent increases, reported DUI increases. While there was one weak correlation found, there were no strong ones. A total of seven deterrents that showed significant relationships fell within what would be considered moderate correlations. “Police presence” and “checkpoints” were, again, the only two deterrents that displayed no significant monotonic correlations with “DUI.” The lower of the two was “police presence” where an extremely weak correlation that was not significant was found \( (\rho = -0.073, p > .05) \). The amount of reported DUI is not related to one’s perception of the deterrent of “police presence.”
Data from the Spearman Correlation Coefficient support the hypothesis of this study. Again, the hypothesis is as follows: the more the subjects agree that the individual consequences of DUI deter them, the less DUI behavior they will self-report. Because the Spearman rho determines what, if any, monotonic relationship exists between two variables, it provides a meaningful method of measuring for the hypothesis. As data from Table 13 indicate, 8 of the 10 deterrents revealed significant monotonic relationships with reported DUI behavior. This would indicate general support from all but two variables in favor of the hypothesis. However, it is interesting to again note that two variables did not reveal a significant relationship (“checkpoints” and “police presence”); therefore, these two deterrents do not show support of the hypothesis. Based upon the fact that there are no significant monotonic relationships with these two variables, it is possible that both police checkpoints and police presence have a closer to equal deterrent effect between one’s perception and DUI behavior among those who favor and do not favor such consequences as deterrents. Therefore, it is possible that “checkpoints” and “police presence” more equally deter the subjects regardless of their level of favor or non-favor. Despite whether or not one feels police checkpoints or police presence deters one from DUI, there is potential for the idea that “checkpoints” and “police presence” act as deterrents to DUI behavior among all subjects more equally. However, data from the Spearman Correlation Coefficient cannot provide proof of such a possibility, only monotonic relationships; therefore, such notions are currently speculative and not supported.
Table 13

*Spearman Correlation Coefficient: DUI and Perception of Consequences*

<table>
<thead>
<tr>
<th></th>
<th>Correlation Coefficient</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Break Law</td>
<td>.399*</td>
<td>.000</td>
</tr>
<tr>
<td>Death Self</td>
<td>-.365*</td>
<td>.000</td>
</tr>
<tr>
<td>Death Others</td>
<td>.283*</td>
<td>.000</td>
</tr>
<tr>
<td>P.O. Pres.</td>
<td>-.073</td>
<td>.151</td>
</tr>
<tr>
<td>Shame</td>
<td>.360*</td>
<td>.000</td>
</tr>
<tr>
<td>Arrest</td>
<td>-.431*</td>
<td>.000</td>
</tr>
<tr>
<td>Jail</td>
<td>.301*</td>
<td>.000</td>
</tr>
<tr>
<td>Lose Lic.</td>
<td>-.341*</td>
<td>.000</td>
</tr>
<tr>
<td>Fines</td>
<td>.353*</td>
<td>.000</td>
</tr>
<tr>
<td>Checkpoints</td>
<td>-.113</td>
<td>.056</td>
</tr>
</tbody>
</table>

*Note.* In all cases, N is 199. *Correlation is significant at the .01 level (1-tailed).*
Chapter 5

SUMMARY, RECOMMENDATIONS, AND CONCLUSIONS

This research study focused on the lack of information and the gap in literature involving the state of public perception regarding the consequences of drinking and driving. Using the theoretical framework of the theory of perception deterrence, a research question was proposed concerning this public perception, as the study looked to examine the perceptual deterrence potential of drinking and driving consequences and their effect upon a subject’s reported DUI behavior. The study hypothesized that the more the subjects agree that the individual consequences of DUI deter them, the less DUI behavior they will self-report.

Important Findings

Generally, it was found, by using frequencies and cross-tabulations, that the non-legal consequences were more favorable than the legal consequences of DUI among all the subjects. Specifically, these non-legal consequences were perceived to act as more of a deterrent to a subject’s DUI behavior. These findings mimic relevant literature arguing that non-legal consequences deter offenders more from offending behavior compared to the legal consequences (Berger & Snortum, 1986; Johnson & Meier, 1977). However, since respondents’ actual DUI behavior was not taken into account, and due to the non-random nature of this study, support for such relevant literature remains limited.

Among those that DUI, this study found they had a generally weaker perception of all the deterrent consequences. This may be due to a number of reasons. For example,
these subjects may have continuously gotten away with DUI behavior and, therefore, their perception of the deterrents is weaker. Further research would need to explore this. Concurrently, among those who consumed alcohol but did not DUI, this study found they had a generally stronger perception of all the deterrent consequences. There may also be several reasons for this. For example, it is possible these subjects had direct and negative encounters with past DUI behavior, and, therefore, their current DUI behavior was non-existent and their deterrence perception was then influenced. However, this study does not account for these possibilities and there are likely more explanations that again leave the door open for future research.

These relationships were examined further using the Spearman Correlation Coefficient. Under this analysis, the hypothesis was supported with all but two exceptions involving “police presence” and “checkpoints.” Again, as the subjects’ favor for the individual consequences of DUI as deterrents increased, their self-reported DUI behavior decreased.

**Implications for Theory Building and Future Research**

This study implemented the use of perceptual deterrence theory and has revealed promising information for its support. Specifically, it indicates that one’s deterrence perception of the consequences of DUI behavior predicts self-reported DUI behavior and there are indeed monotonic relationships among them. However, this study lacks in two main areas. First, it does not provide for a complete evaluation of the relationship between deterrence and DUI behavior, as there are many factors involved. Second, this
study was limited by its small audience of subjects and its non-generalizable nature. Therefore, the findings in this study cannot be generalized to the broader population, only within its scope of research subjects. Despite these faults, this study provides a solid framework from which to build upon and the following explains how future research may address these concerns.

As DUI behavior is a complex social concept, future study should provide several more measures. There is not only a need to involve perceived deterrence of the consequences of DUI and self-reported DUI behavior, but there is also a need to introduce control variables such as drinking behavior and drinking attitudes regarding their relationship toward DUI behavior and perceived deterrence. First, it is important to involve drinking behavior because studies have shown that higher frequency and amounts of drinking are positively related to higher instances of DUI (Chan, Morral, & Schell, 2006). Naturally, to determine the extent of the deterrent relationship existing between one’s perceptions of the consequences of DUI and their DUI behavior, it is also important to assess one’s drinking behavior so there may be further analysis.

Secondly, it is also important to involve drinking attitudes because studies have shown that public attitudes toward drinking, such as positive alcohol expectancies (i.e., I feel relaxed when drinking) are related to DUI behavior. Those with stronger expectations for the positive consequences of drinking engage in DUI behavior more frequently. In addition, drivers who tend to drink and drive frequently, often rationalize their behavior such as through their desire to go somewhere (Hupp, Jewell, & Segrist,
Finally, behaviors and attitudes have a reciprocal relationship, in that behaviors influence attitudes and attitudes influence behaviors (Benthin, Gerrard, Gibbons, & Hessling, 1996). For example, one’s likelihood for DUI behavior should be assessed by several different variables such as through the respondent’s drinking behaviors, attitudes toward drinking and driving, and reported drinking and driving behavior. So measurements within the studies should attempt to cover all aspects regarding self-reported DUI behavior and perceived deterrence of its consequences through established survey questions. Furthermore, the subject’s demographics should be involved as well. Information from age, gender, and the like may provide for more detailed analysis. Therefore, assessing relationships through and among all of these areas would be beneficial. It is then important to note that the survey developed in this study involved several aspects as discussed. However, such data from many of the questions was not utilized within this research. Future research should then consider measuring the variables from these several angles.

Furthermore, it would be extremely beneficial for future research to involve a much larger subject base through a randomized selection process as well as surveys involving a longitudinal method. This would then not only allow for more detailed and expandable data, but also for information and analysis that may be generalized to the greater public. Thus, this would allow for such research to be more valid and reliable.
Implications for Practice: A Public Campaign-based Approach

The findings of this study and future research may provide for effective methods by which to implement in the field. If these findings hold to be true among a generalized population, then certain proactive measures may be taken by the community and law enforcement entities. It is then suggested that the best means by which to combat DUI behavior may be through the use of a more publicly emphasized campaign via the collaborative efforts of both law enforcement and the community to exploit the perceptual deterrent aspects of DUI consequences. This would entail a more widespread proactive effort.

It is found in this study that the non-legal consequences of DUI have a generally stronger perceived deterrence value when compared to legal consequences. Some non-legal deterrents that show great promise for actual deterrent value are “police presence,” “death to self,” and “death to others.” First, based on the study’s findings, the threat of the presence of law enforcement may have the most potential by which to deter motorists from drinking and driving. Therefore, regarding the suggestion for a public collaborative campaign, it may be beneficial for law enforcement and the community, rather than just increasing patrol, to publicize times of increased patrol through media and other public outlets. Police departments may currently emphasize patrol at key times and locations; however, increased police presence combined with the publicized threat of it, may be more effective in deterring DUI behavior. Also, if future research can provide for more information on subjects’ drinking behaviors and DUI behaviors, then law enforcement
may better specify and target their proactive patrol in DUI deterrence. Secondly, “death to self” and “death to others” revealed favorable perceptual deterrence. Therefore, it may be beneficial to continue fostering current anti-DUI campaigns and to create new ones emphasizing the perceptual deterrence value of such non-legal consequences. One great example of such a campaign is MADD, which emphasizes deterring motorist from DUI behavior based upon sharing stories of DUI-related accidents and deaths. Perhaps, it would be beneficial to expose this campaign beyond legally processed DUI offenders to include, as a requirement, those testing for their driver’s license. Another possible way for law enforcement and the community to exploit the “death to self” and “death to others” deterents may be to air several local commercials and adopt both printed and electrical billboards and advertisements revealing the number of DUI-related accidents and deaths. Such methods would publicly exploit those particular perceptual deterents.

Among those who DUI, this study found these subjects had a generally weaker perception of all the deterrent consequences. Aside from “death to self,” “death to others,” and “police presence,” which were again the strongest perceived deterents, the consequences of “jail,” “losing license,” and “checkpoints” were generally stronger compared to those who do not DUI. If future research holds true for such deterents, then it may be beneficial for law enforcement to target DUI offenders emphasizing these deterents. They may currently do so by increasing jail time and checkpoints. However, it may be progressively beneficial to raise public awareness of increased jail time and
checkpoints. Here, for example, local commercials, advertisements, and billboards emphasizing these consequences may again be useful.

This study found the subjects who do not DUI generally had a stronger perception of all the deterrent consequences. “Death to self” and “death to others” were strong in this group as well. Furthermore, “breaking the law,” “shame,” “arrest,” and “fines” were generally stronger perceived deterrents compared to those who do DUI. Again, as suggested, it may be crucial for emphasis to be placed on these deterrents within a public spectrum in order to continue fostering these subjects’ perceptions of the deterrents and to target other actual DUI offenders. The consequence of “shame” could be at its most effective here. For example, law enforcement and the community can publicize the names and faces of legally processed DUI offenders among various media outlets and have these offenders hand out fliers in public areas highlighting their offense. Such public use of shaming may take advantage of the perceptual deterrent effect it has on those who DUI. Also, the consequence of “fines” may be exploited by the community through publicized means much in the same ways that have been suggested.

**Conclusion**

This research sought to identify the deterrent strength, if any, the consequences of DUI have on the subjects’ perceptions and to analyze this relationship with their self-reported DUI behavior. The study found there are indeed monotonic relationships and held the hypothesis to be supported. Although, this research is not without its fair amount of limitations, it still provides grounds for further and more expandable
investigation. Furthermore, the problem of drinking and driving is a very complex one and there may be several methods by which to combat it. This study suggests emphasizing the perceptual-based deterrent nature of the consequences of drinking and driving by exploiting the public’s perceptions of these through a more proactive and non-legal campaign. Most essentially, this should be done on a greater publicized scale through the collaborative efforts of both law enforcement and the community.
APPENDIX

Survey

Please check one box: ☐ I participate in the survey  ☐ I am not participating in the survey

By handing in this survey to the researcher or his faculty sponsor, you consent to its use and you acknowledge that you have read the “Consent to Participate in Research” form and you understand the potential for minimal risk involved and that participation is completely anonymous and voluntary. Again, should you experience any discomfort or stress from this survey, you may contact the campus counseling center at (916)278-6416. Please do not leave any of your personal contact or identity information on this survey to ensure its anonymity.

Please indicate your answer by circling the appropriate response and answering the questions. Circle one response (unless otherwise stated) or write in response where applicable:

1. Do you consume any amount of alcohol on any regular or irregular basis?  Yes  No
   a. If circled “yes”, continue with question 2:
   b. If circled “no”, continue with question 28:
2. How often do you consume alcohol?  Very Rarely  Rarely  Sometimes  Often  Very Often
3. If applicable, about how many drinks do you consume per week?
4. If applicable, about how many drinks do you consume per month?
5. You drink socially: Yes  No
6. You drink at home: Yes  No
7. You drink at bars, clubs, and/or restaurants: Yes  No
   a. How often?  Never  Rarely  Sometimes  Often  Always
8. Do you drink more often when you are:  Home  Not At Home
9. What time of day are you most likely to drink (circle all that apply)?  Morning  Afternoon  Evening  Night  Any
10. To your best knowledge, what is the legal limit for Blood Alcohol Content when driving in CA?
11. Do you currently ever drive a vehicle?  Yes  No
    a. If yes, continue with question 12.  If no, continue with question 28:
12. How often do you drive a vehicle?  Never  Rarely  Sometimes  Often  Always
13. How often do you drive after drinking?  Never  Rarely  Sometimes  Often  Always
14. Is it likely that you’ll drive under the influence of alcohol in the next six months?  Yes  No  Maybe
15. If yes, is it likely that you will be over the legal Blood Alcohol Limit?  Yes  No  Maybe
16. Have you driven while under the influence of any alcohol in the past six months?  Yes  No  Maybe
a. Approximately how many times:

b. At any time, would you consider yourself having been over the legal limit? Yes  No  Maybe

c. If yes, what reasons did you still choose to drive (circle all that apply)?
   Close to Destination  No Visible Police Presence  Didn’t Want to Leave Car  Felt Fine  Other

   If circled “Other”, please explain:

17. How often have you been the Designated Driver?  Never  Rarely  Sometimes  Often  Always
   a. When drinking socially, and you are not the Designated Driver, how often is there a DD
      immediately available?  Never  Rarely  Sometimes  Often  Always

For the following statements circle one: SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree

18. Breaking the law does not deter you from drinking and driving: SD  D  N  A  SA

19. Threat of apprehension or arrest deter you from drinking and driving: SD  D  N  A  SA

20. Threat of any jail time does not deter you from drinking and driving: SD  D  N  A  SA

21. Threat of losing your license deters you from drinking and driving: SD  D  N  A  SA

22. Threat of fines does not deter you from drinking and driving: SD  D  N  A  SA

23. Threat of death/injury to yourself deters you from drinking and driving: SD  D  N  A  SA

24. Threat of death/injury to others does not deter you from drinking and driving: SD  D  N  A  SA

25. Threat of police checkpoints deters you from drinking and driving: SD  D  N  A  SA

26. Threat of a visible police presence deters you from drinking and driving: SD  D  N  A  SA

27. Threat of embarrassment/shame does not deter you from drinking and driving: SD  D  N  A  SA

For the following statements circle one: SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree

28. Driving after drinking alcohol is not a common public occurrence: SD  D  N  A  SA

29. It is fine to drive after drinking alcohol if you do not feel drunk: SD  D  N  A  SA

30. Car accidents are more likely to occur when the driver is intoxicated by alcohol: SD  D  N  A  SA

31. Most injury related/serious accidents occur when the driver has had alcohol: SD  D  N  A  SA

32. How often are accidents related to alcohol: Never  Rarely  Sometimes  Often  Always

33. Have you ever been arrested for a DUI? YES  NO
   a. If yes, how many times (circle one)? 1  2  3  More than 3

34. Have you ever been convicted of a DUI? YES  NO
   a. If yes, how many (circle one)? 1  2  3  More than 3

35. Do you personally know someone who has been convicted of a DUI? YES  NO

36. Age at last birthday:
37. Gender: Male  Female
38. Race or Ethnicity: (circle all that apply)
   Caucasian  Hispanic  East Indian  Asian  Native American  African American  Other
REFERENCES


Thomson-Wadsworth: California.