

PERCEPTIONS OF ALCOHOL CONSUMPTION: AN EXAMINATION OF
UNDERGRADUATE STUDENTS' PERCEPTION OF HARMFUL
ALCOHOL CONSUMPTION AS A SOCIAL PROBLEM
AND ITS RELATIONSHIP WITH CRIME

by

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ABSTRACT

PERCEPTIONS OF ALCOHOL CONSUMPTION: AN EXAMINATION OF UNDERGRADUATE STUDENTS' PERCEPTION OF HARMFUL ALCOHOL CONSUMPTION AS A SOCIAL PROBLEM AND ITS RELATIONSHIP WITH CRIME

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The role of law enforcement in the United States has evolved such that police officers are expected to be problem solvers as well as crime fighters. To that extent, the author begins this study as a broad examination of a social problem that plagues the United States on a day to day basis and ultimately focuses more specifically on social problems locally. It is understood that alcohol-related offenses are the leading cause of negligent deaths in the United States but the problem goes deeper than most realize.

Therefore, the purpose of this study is to examine undergraduate students' perceptions of harmful alcohol consumption as a social problem and specifically its relationship with crime. Research indicates that alcohol misuse costs taxpayers billions

of dollars each year, yet alcohol consumption is a social norm. The prediction is that by addressing problems associated with alcohol consumption, law enforcement can have an impact on social problems pervasively related to harmful alcohol consumption. These problems include alcohol-related deaths due to motor vehicle collisions, homicide and other violent crimes, family violence, and underage drinking.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	iii
ABSTRACT.....	v
LIST OF TABLES.....	x
Chapter	Page
1. INTRODUCTION.....	1
1.1 Definitions of Social Costs and Alcohol Consumption.....	4
1.2 Organization of Presentation.....	6
2. LITERATURE REVIEW.....	8
2.1 A Historical Overview: Alcohol and Drinking.....	9
2.1.1 Philosophers and Drunkenness.....	10
2.1.2 Alcohol Consumption and the Biblical Era.....	10
2.1.3 The Roman Empire and Alcohol Consumption.....	11
2.1.4 Drinking, Social Problems, and European Settlers.....	12
2.1.5 Alcohol Consumption and the 18 th Century.....	13
2.1.6 The Temperance Movement.....	15
2.1.7 Alcohol Consumption in the 20 th Century.....	16
2.2 Social Consequences of Alcohol Abuse.....	17
2.3 Alcohol Abuse, Illness-related Absenteeism, and Lost Productivity (morbidity).....	17
2.4 Alcohol Use and Aggression.....	19
2.5 Alcohol and Domestic Violence.....	23

2.6 Underage Drinking.....	24
2.7 Physiological Effects of Alcohol on the Human Body / Brain.....	27
2.8 Applicable Theory.....	28
2.9 Combating Social Problems Associated with Alcohol.....	33
3. METHODOLOGY.....	38
3.1 Sample and Sample.....	39
3.2 Survey Instrument.....	40
3.3 Survey Implementation.....	42
3.4 Analysis Procedure.....	43
4. FINDINGS.....	45
4.1 Demographics.....	45
4.2 Race.....	49
4.3 Family Consumption versus No Family Consumption.....	56
4.4 Correlations.....	64
5. DISCUSSION / CONCLUSION.....	69
5.1 Limitations of the Study.....	70
5.2 Perception of Undergraduate Students.....	71
5.3 Strength of Relationships.....	74
5.4 Policy Implications.....	76
5.5 Contribution to the Body of Knowledge.....	79
5.6 Suggestions for Future Research.....	79

APPENDIX

A. SURVEY INSTRUMENT.....	81
REFERENCES.....	88
BIOGRAPHICAL INFORMATION.....	95

LIST OF TABLES

Table		Page
1.1	ECONOMIC COSTS OF ALCOHOL ABUSE: 1992 ESTIMATES AND PROJECTIONS FOR 1998.....	4
3.1	SELECTED SPRING 2008 UTA CRCJ UNDERGRADUATE COURSES.....	43
4.1	DEMOGRAPHICS.....	48
4.2	MEANS AND P-VALUES COMPARING WHITES AND NON-WHITES.....	50
4.3	MEANS AND P-VALUES COMPARING FAMILY CONSUMPTION AND NO FAMILY CONSUMPTION.....	57
4.4	PEARSON'S r CORRELATION MATRIX COMPARING ALL VARIABLES.....	65

CHAPTER ONE

INTRODUCTION

Unlike illicit drugs, the purchase, possession, and consumption of alcohol is legal for adults and for most, a part of their everyday social fabric. The prevalence of alcohol use associated with harmful behavior is most easily captured through traffic safety facts. In 2005, the National Highway Traffic Safety Administration (NHTSA) reports a total of 3,536 fatal traffic collisions in Texas alone. Of these collisions involving fatalities, 1,672 (47 percent) were alcohol-related and 1,320 (37 percent) involved a blood alcohol content of 0.08 or more (National Center for Statistics and Analysis, 2007). In 2006, NHTSA reported a total of 3,475 fatal traffic collisions in Texas. Of these collisions involving fatalities, 1,677 (48 percent) were alcohol-related and 1,354 (39 percent) involved a blood alcohol content of 0.08 or more (National Center for Statistics and Analysis, 2007). While overall traffic fatalities within the State of Texas decreased, fatality collisions involving alcohol increased by 5 total collisions, thus, equating to an increase of less than one percent.

Increasingly, police departments in the United States are focusing their attention on the problems caused by alcohol consumption. Yet, in light of recent subtle declines in overall fatality collisions nationally (2005-2006), there remained a total of 17,590 fatality crashes that were related to alcohol in 2006 (National Center for Statistics and Analysis, 2007). By comparison, the Federal Bureau of Investigation Uniform Crime

Reporting indicates that an estimated 17,034 persons were murdered nationwide in 2006 (United States Department of Justice, 2007) making alcohol-related fatality collisions the leading cause of negligent deaths in the United States. In comparison, the United States launched Operation Iraqi Freedom on March 19, 2003 as part of the War on Terror.

From March 2003 to present, a total of 3,978 United States Military or Department of Defense personnel died as a result of combat or post combat operations in Iraq while a total of 482 died while serving in combat operations as a part of Operation Enduring Freedom in and around Afghanistan. The casualty count for the two conflicts totals 4,460 as of March 14, 2008 at 10:00 am Eastern Standard time (United States Department of Defense, 2008). This total equates to an approximate average of 372 deaths per month for the entire duration of the Iraq and Afghanistan wars. Conversely, in 2006 alone, the United States experienced an approximate average of 1,466 deaths every month that are related to harmful alcohol consumption in the form of alcohol related fatality crashes.

Alcohol consumption in the United States of America has fostered a wide variety of attitudes, opinions, and behaviors. Research suggests that alcohol consumption is a more widespread social problem than most realize. Criminologists and social scientists established a correlation between alcohol and crime. Quoting a 1998 Bureau of Justice Statistics study, Gavin Dingwall reports that

“On average there were 11.1 million violent victimizations of American citizens aged 12 or over each year between 1992 and 1995. Victims were asked whether they thought that the person who had attacked them had been drinking or using drugs prior to the incident. In the majority of cases (69.3 percent) the victim

claimed to have been able to tell whether or not the person had been drinking or taking drugs. Based on these perceptions, about 2.7 million violent crimes took place every year in the U. S. where the victim was sure that the offender had been drinking...Nearly a quarter of victims of violence, therefore, were certain that the offender had been drinking prior to offending...With regard to intimate victims (defined as current or former spouses, boyfriends, and girlfriends) 67 percent believed that the offender had been using alcohol either alone or in combination with another drug.” (2006, p. 31)

Additionally, Galanter (2002) cites the work of the Drug Use Forecasting group that reported 59 percent of people arrested for violent crimes had been using drugs, often in conjunction with alcohol. Alcohol is believed to be a factor in 35 to 40 percent of all violent victimizations (Greenfeld, 1998) and in at least 50 percent or more of selected violent crimes that include murder, rape, and family violence (Miczek, Weerts, & Debold, 1993).

The problems associated with alcohol consumption extend far beyond alcohol’s correlation to violence and aggression, yet the violence/aggression problem is interconnected with the overall social costs of alcohol consumption. In 1992, Harwood, Fountain, and Livermore (1998) estimated the economic costs of alcohol abuse and alcoholism as reaching \$148 billion. Of the total economic cost, they estimated \$20 billion were crime-related expenditures including \$400 million spent on the medical care of victims of violent crimes. Harwood, Fountain, and Livermore also reported that an additional \$6 billion was spent on criminal justice resources.

In an update, Harwood (2000) documented an estimated 25 percent increase (3.8 percent per year on average) in the economic costs associated with alcohol abuse bringing the estimate to \$184.6 billion for the United States for 1998. Harwood further reports estimates for 22 major cost components and has applied various combinations of

18 different specific adjustment factors to account for the changes that occurred between 1992 and 1998. These factors include incidence and prevalence of selected alcohol-specific consequences, population, general prices, and worker compensation or wage rates. The purpose of this study is to measure undergraduate students' perceptions of alcohol consumption as a social problem and specifically its relationship with crime. However, in order to adequately describe alcohol as a social problem, Table 1.1 is provided to illustrate the Economic Costs of Alcohol Abuse: 1992 Estimates and Projections for 1998 (in Millions of current year dollars – 2000):

Table 1.1. Economic Costs of Alcohol Abuse: 1992 Estimates and Projections for 1998

Cost Component	Cost Estimate (\$ in millions)		Average Annual Percent Change
	1992 (original estimate)	1998 (updated estimate)	
Total	148,021	184,636	3.8
Specialty Alcohol Services	5,573	7,466	5.0
Medical Consequences (except FAS*)	11,205	15,963	6.1
Medical Consequences of FAS*	2,042	2,909	6.1
Lost Future Earnings Due to Premature Deaths	31,327	36,499	2.6
Lost Earnings Due to Alcohol-Related Illness	68,219	86,368	4.0
Lost Earnings Due to Fetal Alcohol Syndrome	990	1,253	4.0
Lost Earnings Due to Crime/Victims	6,461	10,085	7.7
Crashes, Fires, Criminal Justice, etc	22,204	24,093	1.4

Source: Harwood et al. (1998) *FAS – Fetal Alcohol Syndrome

1.1 Definitions of Social Costs and Alcohol Consumption

There are a variety of views related to the concept of social costs as they relate to alcohol consumption. Because of the varied connotations of the term, it is necessary

to clearly define the concepts that will encompass all references to the term “social costs.” Therefore, for the purposes of this study, the social costs or consequences of alcohol consumption “are changes, subjectively or objectively attributed or attributable to alcohol, occurring in individual social behavior or in social interaction or in the social environment.” (Klingemann & Gmel, 2001, p. 3) As this concept is discussed throughout the literature review, findings, and the contributions of the study to the body of knowledge, it is important to compare all references within the framework of this definition.

Similarly, the terms alcohol use, alcohol abuse, alcohol misuse, and alcohol consumption will be used as Harwood (2000) defines the term “alcohol abuse.” Throughout his report on economic costs, Harwood defines the terms as “any cost generating aspect of alcohol consumption.” This differs from the clinical definitions that might be associated with any of the terms which involve specific diagnostic criteria. Thus, the costs associated with a single occasion of drunk driving that leads to injury or property damage would be counted in this framework, even though this behavior would not, by itself, meet the clinical criteria for a diagnosis of “alcohol abuse.” Therefore, the terms alcohol use, alcohol abuse, alcohol misuse, and alcohol consumption will be used interchangeably throughout this study in conjunction with this definition.

It is clear from this information that the problems associated with alcohol abuse carry great socio-economic consequences. While there are copious studies related to alcohol, alcoholism, and alcohol consumption and social costs, there are no specific studies related to an examination of undergraduate students’ perceptions of alcohol

consumption as a social cost and more specifically, alcohol's relationship with crime. Consequently, in order to frame the contentions presented within this work, it is important to provide a plan of organization to the project discussed herein.

1.2 Organization of Presentation

In chapter two of this study, the author will provide a comprehensive overview of literature related to the issues surrounding the social costs of alcohol consumption. The author broadly outlines the history of alcohol consumption as social costs related to alcohol consumption are not new to the current culture. Subsequently, alcohol abuse, illness related absenteeism, and lost productivity related to alcohol consumption are discussed. Research suggests that there is a positive correlation between alcohol consumption and violent crime (Exum, 2006); therefore, alcohol's correlation to violence and aggression is discussed. The author then focuses on alcohol's relationship to domestic violence and the review of relevant literature becomes more focused as the author explores underage drinking.

Merely discussing alcohol's relation to violent acts would be in vain absent a broad understanding of the actual physiological effects of alcohol on the human body and brain. Therefore, in chapter two, the author focuses on current research related to the physiological effects of alcohol on the human body. Additionally, criminological theories are certainly applicable to harmful behavior associated with alcohol consumption and the author covers applicable criminological theory. The final section of chapter two is devoted to strategies for combating social problems associated with alcohol consumption.

In chapter three, the author focuses on the creation of the instrument used to measure the perceptions of alcohol consumption as compared to the knowledge of harmful alcohol consumption. Because alcohol abuse is routinely highlighted at the collegiate level, the perceptions of alcohol use were measured among Criminology and Criminal Justice students at the University of Texas at Arlington. This section includes an explanation of the methodology utilized with specific attention given to sample size, criteria for participation, and an overview of the demographics of those who completed the survey. The Statistical Package for the Social Sciences (SPSS) was used to compile and calculate the perceptions of alcohol use as a social problem among the participants within the study.

Finally, chapter five is devoted to a discussion of the conclusions and inferences that can be made in relation to the data interpretations presented in previous chapters. There are many limitations to a study of this type and therefore, the limitations and shortcomings of this work will be outlined. Because the findings of this study will be beneficial through the policies of city government, policy implications are an important component to the effectiveness of this study. The author also presents suggestions and possibilities for future research in the area of social costs of alcohol consumption as it relates to crime.

CHAPTER TWO

LITERATURE REVIEW

“Alcohol misuse contributes significantly to crime levels, through alcohol specific offenses...against licensing laws...or offenses committed under the influence of alcohol: it has been estimated that 40% of violent crime, 78% of assaults and 88% of criminal damage cases are committed while the offender is under the influence of alcohol. Alcohol is often consumed by offenders and victims prior to the offense being committed, and it is inextricably linked to disorder around licensed premises.”

Klingemann & Gmel, 2001, p.6

There is a broad history of alcohol and its affect on the economy, crime, and social context, and culture of the United States. As a matter of fact, alcohol’s correlation to deviant behavior can be traced back to periods that include the temperance movement. In order to sufficiently grasp the complexity of harmful alcohol consumption, it is important to consider the history of the substance and historical events that surround political, religious, and ethical dilemmas that are associated with its consumption. Therefore, the author begins this chapter with an historical overview of alcohol and drinking and addresses harmful alcohol consumption and its effect on society through a review of relevant literature. This review of relevant literature will include explorations concerning the social consequences of alcohol abuse; alcohol abuse, illness related absenteeism, and lost productivity; alcohol use and aggression; alcohol and domestic violence; underage drinking; the physiological effects of alcohol

on the human body/brain; applicable theory; and combating social problems associated with alcohol.

2.1 A Historical Overview: Alcohol and Drinking

The purpose of this study is to examine undergraduate students' perceptions of harmful alcohol consumption as a social problem and specifically its relationship with crime. In order to provide a framework for this study, it is important to understand the drinking customs of any nation as they are ultimately related to its historical and cultural growth. Some factors that play a large part in this development include geography, economics, politics, religion, and ethnic development. Alcoholic beverages have been consumed in almost every part of the world since ancient times. The genesis of any historical survey of alcohol consumption practices and customs originates with the birth of civilization in the Middle East where ancient civilizations give evidence of the use of alcoholic beverages as long ago as 6000 B.C.E. (Before the Common Era). Fermentation occurs naturally when fruits and other substances are exposed to open air for extended periods and it is believed that wine making originated in the Middle East (Mendelson & Mello, 1986, p.23). The Old Testament of the Bible credits Noah with the planting of the first vineyard and mentions that he was the first to experience drunkenness (Mendelson & Mello, p. 23).

Habitual drunkenness was not common in ancient Greece as moderation was paramount in Greek culture. The first alcoholic beverage to gain widespread popularity on the Hellenic peninsula was mead. Mead was a fermented drink made from honey and water and by 1700 B.C.E.; Greek civilization had attained a level of development

that made locally produced wine commonplace (Mendelson & Mello, p. 24-25). During the next thousand years, wine took on the same function as in other cultures. These functions included religious rituals, hospitality customs, dietary supplements, and medicine.

2.1.1 Philosophers and Drunkenness

By the 7th century, wine production had become an integral part of Greek agriculture and alcohol consumption began to play an important role in everyday life (Mendelson & Mello, 1986). Philosophers Socrates and Plato began to speak out against the growing incidences of drunkenness as perpetrated by Greek rituals such as the symposium, a gathering of men that included conversation, entertainment, and drinking (Mendelson & Mello, p. 26-27). The great philosopher's advice was not heeded, even by the most renowned Greek warrior, Alexander the Great whose routines of drinking after significant victories became well known. Alexander's drinking binges were often associated with violence. Mendelson and Mello suggest that his last alcoholic episode may have exacerbated his premature death at the age of thirty three.

2.1.2 Alcohol Consumption and the Biblical Era

During their captivity in Europe, the Hebrews were introduced to wine. In fact, when Moses led his people to Palestine around 1200 B.C., the Hebrew people discovered that the area was rich with vineyards. Many conservative groups in the towns began to criticize the drinking habits of the Hebrew settlers and Old Testament stories documented the hostility to wine and drunkenness. Mendelson and Mello cite the book of Proverbs as condemning the "love of wine" because they perceived a

particularly strong connection to arguments, poverty, and madness. After the Hebrews were conquered by the Babylonians, they were sent to a city that was known for its excessive use of alcohol. Mendelson and Mello even go so far as to explain that “widespread drunkenness may have led to the Babylon’s downfall.” (p.29) As the Hebrews returned to Palestine, their drinking habits became more moderated and over the next two centuries, consumption of wine was integrated into religious ceremonies and sacraments (Mendelson & Mello).

2.1.3 The Roman Empire and Alcohol Consumption

From the founding of Rome in 753 B.C. until the 3rd century B.C., vineyards were particularly small and wine was not sufficiently available to promote widespread drinking on a regular basis. By the first century, wine became Rome’s drink of choice, a major export item, and an important source of government revenue (Mendelson & Mello, p. 30). At the pinnacle of the Roman Empire, the economic prosperity of Italy began to depend on vineyards. Wine was the prominent domestic industry and dependence on the economic benefit expanded sales across the peninsula. The Roman conquests of northern Europe brought sophisticated viticulture to France, Germany, Spain, and the British Isles (Mendelson & Mello, p.30).

“As luxury, avarice, greed, and ambition ushered in the decline of Rome, heavy drinking was often implicated as a cause of many social ills” (Mendelson & Mello, p. 30-31). However, it was not until the 19th century that the production of wine, beer, and other distilled beverages became cheap enough to supply inexpensive alcohol to the masses. As a matter of fact, the one social problem common among every country was

alcoholism as evidenced by records of public drunkenness, industrial accidents, and hospitalization for “insanity cause by intemperance” (Mendelson & Mello, p. 42).

2.1.4 Drinking, Social Problems, and European Settlers

As drinking and social problems associated with alcohol increased in almost every industrialized country, factions of clerics, business leaders, physicians, and social reformers took up the challenge to control the alcoholic beverage industry (Mendelson & Mello, p. 43). The first European settlers on the North American continent brought a variety of drinking preferences and customs. Similarly, the early settlers of the United States saw alcohol as good for health. The Puritans saw alcohol as a gift from heaven as they called it “the good creature of God” (Parker & Auerhahn, 1998, p. 7) that was beneficial and necessary (Mendelson & Mello, p. 47). Both men and women drank alcohol, especially fermented beverages made from fruits such as pears, strawberries, elderberries, and grapes.

Until the 19th century, cider was the most common beverage in the colonies because it was very easy to produce (Mendelson & Mello, p.45). Abundantly produced from apple orchards that spread through the landscape of New England and New York, cider was stored in barrels in farm cellars so that natural fermentation could produce a mild alcoholic apple wine. It was an integral part of family culture as it was provided liberally to every family member. Cider was served at breakfast, dinner, and supper because water was considered dangerous to drink due to the lack of sanitation (Parker & Auerhahn, p. 8). It was consumed in the fields between meals and it had a strong presence in social activities (Mendelson & Mello, p. 45).

The consolidation of the slave trade in the late 1600s and early 1700s and the boom in plantation sugar production resulted in the availability of large quantities of molasses (Parker & Auerhahn, p. 8). Molasses and sugar cane, imported by New England traders, provided the raw materials necessary to produce large quantities of rum and it soon became one of the most popular beverages in the colonies (Mendelson & Mello, p. 46). Rum was consumed mainly at celebrations. Later, rum was condemned by the Puritan descendents as “demon rum” and a distinction was made between drinking and drunkenness, specifically “wine is from God, but the drunkard is from the devil.” (Mendelson & Mello, p. 47).

The Puritans saw drunkenness as sinful because “it was a form of sloth” and the Puritan religion was strict in its work demands. Even though the Puritans noted that fights tended to break out in taverns, they contributed the fights to the tavern’s uses as meeting places for gamblers, prostitutes, criminals, unemployed men, and other less desirable characters instead of an effect of alcohol consumption (Parker & Auerhahn, p. 8). The theology of the Puritans placed strong emphasis on the free will of an individual and therefore, the assertion that alcohol affected a person’s ability to choose would contradict their strict position that a person had the free will to choose their actions (Parker & Auerhahn, p. 8).

2.1.5 Alcohol Consumption and the 18th Century

Intoxication itself was sometimes treated with severe punishment and habitual drunkards were sometimes whipped or forced to wear some sort of “mark of shame.” Once the individual received this mark, they were not allowed to purchase alcoholic

beverages (Mendelson & Mello, p. 47). The 18th century marked changes in the colonial drinking customs. Increasing affluence made foreign wine and domestic rum more affordable and thus more available. The increasing availability of alcohol and the rapid expansion of the liquor industry resulted in significant consequences.

Drinking penetrated almost every aspect of social life including weddings, ordination ceremonies of ministers, and business meetings of the town. Liquor was readily available in homes, inns, and retail stores. It was abundantly imbibed at work as manual workers were routinely provided with a ration of liquor as a benefit of their employment. It was a common medicine prescribed by every colonial physician who also recommended consumption to healthy individuals as a source of energy. It is no surprise that alcohol-related problems developed due to the pervasiveness of alcohol use during this period (Mendelson & Mello, p. 48).

By 1790, alcohol consumption had reached an estimated annual level of nearly six gallons of pure alcohol per person (Mendelson & Mello, p. 48). Between 1791 and the end of the century there was a significant amount of attention given to alcohol production and consumption. During this time, the colonial congress of the newly independent United States imposed a tax on a number of products including distilled spirits in order to replenish the post Revolutionary War national coffers. Whiskey was taxed according to its proof and yearly taxes were imposed on stills. The Revolution was ignited by significant resistance to British taxation and regulation and residents believed they had been freed from taxes imposed by the governments (Parker & Auerhahn, p. 16). The disagreement between the government and its citizens led to

significant conflict until the government slightly retreated, reducing the taxation of spirits.

2.1.6 The Temperance Movement

The whiskey rebellion is an important part of the history of alcohol consumption in the United States because it was the first large-scale opposition to control of trade in alcohol. It also established the power of the federal government to impose taxes and controls on alcohol production (Parker & Auerhahn, p. 17). The alcohol consumption binge continued well into the 1830s when increasing support for sobriety spurred a powerful social movement called the American temperance movement (Mendelson & Mello, p. 48). The purpose of this study is to examine undergraduate students' perceptions of alcohol consumption as a social problem and specifically its relationship with crime. In that context, one should consider the perceptions of alcohol consumption held by the father of the temperance movement, Dr. Benjamin Rush, who saw excessive alcohol consumption as a disease (Parker & Auerhahn, p. 8-9). He established an action plan for temperance reform that included active involvement of church leaders, petitions to limit the number of taverns, significant liquor taxes, and considerable sanctions on public intoxication (Mendelson & Mello, p. 50). The second half of the nineteenth century was a significant time for alcohol production, use and regulation as well. The brewing and distilling industries expanded after the Civil War and alcohol consumption remained high (Tracy & Acker, 2004, p. 5).

2.1.7 Alcohol Consumption in the 20th Century

In the early 1900s, alcohol was a common beverage and by 1920, the United States government passed the Eighteenth Amendment to the U. S. Constitution prohibiting the sale, manufacture, and distribution of alcohol (Mooney, Knox, & Schacht, 2007). The passage of this law came on the eve of World War I and Finland, Belgium, Iceland, Norway, England, and Russia felt that alcohol was a sufficient enough threat to society that they followed the actions of the United States by passing similar laws prohibiting the manufacture and sale of alcohol (Mendelson & Mello, p. 43). A significant number of Americans rejected prohibition and bootleg liquor flowed freely in many cities. In 1933, after the repeal of prohibition, the nation entered what some believe to be an era of ambivalence concerning alcohol.

Old taboos faded and alcohol consumption spread wildly (Tracy & Acker, p. 8). Prohibition marked radical changes in beliefs and drinking practices as the average American in the 1820s drank three times as much as a person in the 1970s (Grant & Litvak, 1998). Since then, there have been marked fluctuations in the patterns of alcohol consumption as influenced by political, religious, and economic shifts. These differences are more directly associated with the increased industrialization of America and the rise of a stable middle class. Today, there seems to be a resurgence of concern about alcohol as it remains the most widely used and abused drug in America (Mooney, Knox, & Schacht, 2007). Mooney et al. (2007) also report that the use of alcohol and tobacco are much more widespread than the use of illicit drugs as half of Americans age

12 and older report being current alcohol drinkers. This resurgence of concern brings the author to explore the overall social consequences of alcohol abuse.

2.2 Social Consequences of Alcohol Abuse

Alcohol abuse is associated with many harmful consequences for the individual drinker, the drinker's immediate environment, and society as a whole (World Health Organization, 2004). A working definition of social consequences was adopted by Klingemann and Gmel (2001): "social consequences of alcohol are changes, subjectively or objectively attributed or attributable to alcohol, occurring in individual social behavior or in social interaction or in the social environment" (p.3). These social consequences may include traffic collisions, workplace-related problems, family and domestic problems, and interpersonal violence or aggression. Ultimately, these situations have an impact on society as they affect economic productivity or require the attention and resources of the health care system, criminal justice agencies, or other social institutions (World Health Organization, 2004). Harmful alcohol consumption's affect on economic productivity can also be explained through illness related absenteeism and lost productivity.

2.3 Alcohol Abuse, Illness-related Absenteeism, and Lost Productivity (morbidity)

Klingemann & Gmel (2001) explain that a significant number of studies have found an association between heavy drinking or alcohol abuse and unemployment and illness-related absenteeism. Heavy drinking in the workplace has the potential of lowering productivity. Illness related absences associated with alcohol abuse and alcohol dependence results in substantial costs to employees through social security

systems. This assertion is supported by evidence that individuals with alcohol dependence and alcohol abuse have higher rates of illness-related absences from work than other employees (Klingemann & Gmel, 2001). Globally, alcohol is the primary cause for approximately 10 percent to 20 percent of work accidents and trauma in France as reported by the World Health Organization (2004). A survey conducted in Australia of 833 employees at an industrial worksite found that problem drinkers were 2.7 times more likely to have an injury-related absence from work than were non-drinkers (Webb et al., 1994). Illness related absenteeism is a significant social cost of alcoholism as evidenced by cited research.

There are several ways that lost productivity can be measured as it relates to alcohol use. The major concerns in this area include loss of productivity, absenteeism, safety, employee relations, poor behavior, and impacts on the image of the company as a whole. According to the North West Public Health Observatory, up to 25 percent of workplace accidents and around 60 percent of fatal accidents at work may be related to alcohol use (Hughes & Bellis, 2000). As Table 1 outlined, the United States has experienced similar levels of economic costs related to employment and work-related alcohol use. Harwood et al. (1998) estimates that lost future earnings due to premature deaths (mortality) will cost approximately \$36.5 million and lost earnings (morbidity) due to alcohol-related illness costs approximately \$86.5 million.

Similarly, the Texas State Commission on Alcohol and Drug Abuse reports morbidity costs at \$6.1 million and mortality cost at \$2.6 million (Liu, 1997, p. 6). Some of the impacts of alcohol-induced morbidity are actually borne by the employer

rather than the employee who chooses to consume alcohol. In fact, employers of alcohol abusers bear the costs of illness-related absences, time spent on physician visits, visits to medical centers, and reduced productivity (Grant and Litvak 1998, p. 174). The next area of interest when exploring the social costs of alcohol consumption is alcohol use and its relationship to aggressive behavior, which, might also contribute to the overall economic impact of harmful alcohol consumption.

2.4 Alcohol Use and Aggression

There is a well established link between alcohol and aggression, yet much of the empirical data reports only the percentage of criminal episodes in which alcohol was present in either the aggressor or the victim (Exum, 2006). Aggression is defined as “a response that delivers noxious stimuli to another organism” (Buss, 1961, p. 1). This definition has been further clarified by adding two elements. First, the aggressor delivers the noxious stimuli with the intent to harm the victim and second, the aggressor expects the noxious stimuli will have its intended effect (Green, 1990). Of an estimated 5.7 million offenders under criminal justice supervision in 1998, approximately 38 percent were under the influence of alcohol at the time they committed their crimes (Greenfeld & Hennenberg, 2001). Exum (2006) cites the Center on Addiction and Substance Abuse (1998) when they report that alcohol is more commonly associated with violent crime than property offenses.

According to Parker and Auerhahn (1998), empirical evidence suggests that when violent behavior is associated with a substance, it is most often associated with alcohol even when samples containing high baseline rates of illicit drug use are present.

Simply stated, violent events are more likely to be associated with the consumption of alcohol than with any other substance (Parker & Auerhahn, 1998). It is not suggested that alcohol causes violence or violent behavior. In fact, findings from many studies that suggest nearly half of all violent criminals were drinking prior to their crimes may simply reflect daily consumption patterns. However, alcohol consumption is more strongly linked with violent behavior than heroin, amphetamines, cocaine, or phencyclidine and it is more commonly associated with acts of violence than all other drugs combined (Exum, 2006). The results of Exum's study of the relationship between alcohol and aggression revealed that alcohol exerts a true and medium effect on aggressive behavior.

While most Americans consume alcohol in the social context, the majority of drinkers do not engage in violent behavior (Exum, 2006). Yet alcohol is believed to be involved in thirty-five to forty percent of all violent victimizations and in fifty percent or more of selected violent crimes including murder, rape, and family violence (Exum, 2006). Some experimental studies suggest that alcohol facilitates aggressive behavior, and the most commonly accepted mechanism of alcohol-induced aggression involves the inhibition of fear (Haggard-Grann et al., 2004). The experimental findings reviewed by Exum (2006) also indicate that alcohol had a causal influence on violent behavior.

Several models are mentioned in this study to include the expectancy model, the physiological disinhibition model, and the indirect causal model (Exum, 2006). The expectancy model of alcohol-induced aggression suggests that the learned beliefs about alcohol consumption, not the pharmacological effects of ethanol, facilitate aggressive

behavior. In other words, aggression may occur after alcohol is consumed because the drinker expects the alcohol to lead to aggression rather than the actual effects of the ethanol itself. Exum (2006) contends that expectancy has a negligible effect on aggression and states that it is the pharmacological properties of ethanol that explain the bulk of the variance in intoxicated aggression.

The physiological disinhibition model is the model most widely used to explain alcohol-related aggression. This model explains that people's aggressive tendencies are normally controlled by inhibiting forces, and alcohol would increase the possibility of aggressive behavior chemically through direct pharmacological effects on the brain (Gmel & Rehm, 2003). Bushman (1997) explains that alcohol anesthetizes that part of the brain responsible for inhibiting aggressive responses. Yet according to Exum (2006), the physiological disinhibition model has fallen out of favor with many contemporary scholars.

The last theory, the indirect causal role theory, suggests that "alcohol increases aggression by causing certain cognitive, emotional, and physiological changes that increase the probability of aggression" (Exum, 2006, p. 142). In this model, alcohol is not viewed as a stimulator of a person's aggression; instead, it is thought to produce certain cognitive or guttural changes that interact with external factors like provocation, making aggression a more likely response. Even though alcohol has been shown to affect the decision-making and impulse control centers of the brain, further experimental studies do not support the notion that the pharmacological effects of ethanol alone increase aggressive behavior (Gmel & Rehm, 2003). Alcohol is an

important contributing factor in aggressive behavior, but it is conditioned upon situational factors such as the emotional state of a person, level of intoxication, and perceived retaliation from the victim (Exum, 2006).

Even though thirty to forty percent of offenders self-report the use of alcohol at the time they committed the offense (Windle & Windle, 2005), there remains some difficulty in establishing a causal relationship between alcohol and aggression or aggressive behavior from correlational data. The complications associated with correlational studies include: the aggressor may misreport alcohol use as an excuse or to avoid punishment; alcohol consumption may accompany participation in group events that could lead to violence; alcoholism may force people into a social stratum where crime is more probable; and alcohol and violent crime may be responses to underlying social malaise (Bushman, 1997).

The use of experimental studies in this realm is far more effective in determining the relationship between alcohol and aggression as they avoid the complications mentioned by the increased control of the researcher with the participants. Bushman answers the question of whether alcohol causes aggression by explaining the results from their experimental study which suggests that alcohol causes aggression, in fact, intoxicated participants were more aggressive than their sober participants. This particular research uses the term “cause” as it relates to the relationship between alcohol and aggression.

At this point, it is important to note that this author does not agree that there is a cause-effect relationship between alcohol and aggression as a more accurate description

of this relationship might be in describing correlations rather than causes. Since researchers indicate that most Americans consume alcohol in the social context (Exum, 2006), alcohol consumption and its relationship to domestic violence should be considered.

2.5 Alcohol and Domestic Violence

Significant research has indicated that alcohol is present in a substantial amount of violence associated with domestic relationships. The most prevalent of these patterns has revealed that drinking is common both by the offender and the victim. This relationship between domestic related violence is quite complex (World Health Organization, 2004). Intimate partner violence is a significant health problem in the United States according to research cited by Field, Caetano, and Nelson (2004, p. 249). Research has consistently supported a strong association between intimate partner violence and the use of alcohol. Their study found that although all of the cognitive and personal risk factors evaluated tended to be common in perpetrators of intimate partner violence, expectations of aggressive behavior following alcohol consumption appear to be the most influential predictor in couples that have permissive attitudes toward intimate partner violence, alcohol as an excuse for harmful behavior, and risk taking (Field, Caetano, & Nelson, 2004, p. 252).

Further research compared incidents of intoxicated husband aggression with incidents of sober aggression that were reported by the same individual (Testa, Quigley, & Loenard, 2003, p. 736). Their study was based on a sub-sample of couples who participated in the Buffalo Newlywed Study where couples were assessed at the time of

marriage, first wedding anniversary, and third anniversary. Initially, there were 658 couples enrolled in the study including 493 husbands and 527 wives that completed interviews at the third anniversary. The analyses of the study are based on data from 37 wives and 35 husbands representing 61 different couples. All reported both an alcohol-related and a non-alcohol-related incident of partner violence. Their findings provided some evidence that episodes of marital violence where the husband is drinking may be more severe than situations perpetuated by the same spouse when sober. The next step in exploring harmful alcohol consumption is to consider underage drinking.

2.6 Underage Drinking

The purpose of this study is to examine undergraduate students' perceptions of alcohol consumption as a social problem specifically as it relates to crime; for that reason, it is important to consider underage drinking. The National Institute on Alcohol Abuse and Alcoholism (2003) states that by the time a young person reaches the eighth grade, almost fifty percent of them have had at least one drink. Over twenty percent report having been drunk. Underage drinking is illegal *per se* in most states which forbid possession and consumption of alcohol by a minor where the alcohol was not provided to the individual by their parents. Even though it is illegal to sell alcohol to individuals under age 21, they do not find it difficult to obtain alcohol. Adults (non-parents) are common sources or providers of alcoholic beverages to minors. In fact, "more than 90 percent of twelfth graders report that alcohol is 'very easy' or 'fairly easy' to get" (Bonnie & O'Connell, 2003). Interestingly enough, Bonnie and O'Connell also report that underage youths drink more heavily and recklessly than adults.

Underage drinking is a high risk behavior to both the individual and to society not only due to the risks associated with acute impairment, but also the threat to the youth's long-term development and well-being as frequent heavy drinking by young adolescents can lead to mild brain damage. This problem is more likely to kill young people than all illicit drugs combined (National Institute on Alcohol Abuse and Alcoholism, 2003). Underage drinking is linked to violence, suicide, educational failure, and other problem behaviors (Bonnie & O'Connell, 2003) including gang involvement.

Traffic crashes are the most evident of dangers for minors who consume alcohol. The rate of alcohol-related crashes is greater for drivers between the ages of sixteen and twenty than for drivers age 21 and older. Moreover, the rate of fatal crashes among alcohol-involved drivers between sixteen and twenty years old is more than twice the rate for alcohol-involved drivers ages 21 and older (National Institute on Alcohol Abuse and Alcoholism, 2003). The social cost for traffic crashes related to underage drinking is estimated at \$19 billion and \$29 billion from violent crime for a total of \$59 billion (Bonnie & O'Connell, 2003). Consequently, a recent economic study indicates that underage drinkers account for approximately 19.7 percent of alcohol expenditures in the United States (Windle & Windle, 2005).

For adolescents, alcohol can react with mental disorders such as depression, stress, or anxiety and contribute toward a tendency for committing suicide. Statistics from 2003 suggest that suicide is the third leading cause of death among people between the ages of fourteen and twenty-five with homicide and deaths related to

accidents accounting for the first and second leading cause of death. In one study, 37 percent of eighth grade females who drank heavily reported attempting suicide as compared with 11 percent who did not drink (National Institute on Alcohol Abuse and Alcoholism, 2003). Another study quoted by Windle (2006) provides information from 65 U.S. Medical Examiner studies reporting on non-traffic injury fatalities. They estimated the percent of homicides, accidents, and suicides where the decedent was positive for alcohol or was intoxicated at the time of death. They found that 47.1 percent of homicide decedents, 38.5 percent of accidental death decedents, and 29 percent of those who committed suicide and had alcohol in their system. In addition, they found that 31.5 percent of homicide decedents, 31 percent of accidental death decedents, and 22.7 percent of those who committed suicide were intoxicated at the time of death.

Other negative consequences were experienced by underage drinkers. Windle 2006 discusses a study conducted by Southern Illinois University which suggests that substantial percentages of adolescent and young adult drinkers experience a broad range of alcohol-related problems, including difficulties with peers, problems in school, negative physical consequences, and encounters with the law. These findings also indicate that 64.5 percent of students who drank alcohol during the past year experienced a hangover, 55.3 percent experienced nausea or vomited, 34.7 percent had a memory loss, and 16.5 percent had been hurt or injured. Consequently, it is imperative that one consider the physiological effects of alcohol on the human body and brain.

2.7 Physiological Effects of Alcohol on the Human Body / Brain

Ethyl alcohol, known as “ethanol,” is the ingestible alcohol found in beer, wine, whiskey, and liquors. Ethanol is a central nervous system depressant and its effects are not evident until it reaches the central nervous system (the brain, the brainstem, and spinal cord) via the bloodstream. There are several methods for the introduction of ethanol into the human body; however, the most common method of ethanol exposure is ingestion through the stomach. Once in the stomach, the process of absorption takes place whereby approximately 20 percent of the alcohol passes into the blood stream directly through the walls of the stomach meaning the absorption of alcohol can take place rather quickly. The remainder, about 80 percent, will be digested through the stomach and enter the large intestine where it is absorbed into the blood by simple diffusion. Food can slow the passage of alcohol into the large intestine thus slowing the rate of alcohol absorption into the blood stream (Texas Drug And Alcohol Training Institute, 2004). Alcohol has an affinity for water and is deposited in the body’s tissues in proportion to the tissue’s water content. Since the human brain has a fairly high concentration of water, it receives a substantial share of the distributed alcohol.

A person’s alcohol intake is measured by the blood alcohol content or BAC which equals grams of alcohol found in 100 milliliters of a person’s blood. When a person’s BAC is 0.01-0.05, behavior is nearly normal by ordinary observation (Intoximeters Incorporated, 2006). However, there are subtle measurable changes that are characterized by loss of judgment, relaxation, a slight increase in body temperature, and altered mood when a person’s BAC reaches 0.02 (National Highway Traffic Safety

Administration, 2005). BACs between 0.03 and 0.12 are noticeable by signs of euphoria, increased sociability, talkativeness, increased self confidence, decreased inhibitions and diminution of attention, judgment, and control. This stage marks the beginning of sensory motor impairment, and loss of efficiency in finer performance tests (Intoximeters Incorporated).

The National Highway Traffic Safety Administration suggests that at a BAC of 0.05, a person might present with exaggerated behavior with a loss of muscle control including an inability to focus the eyes. At this level, even though a person feels good, they will begin showing signs of impaired judgment, lowered alertness, and released inhibition. At a BAC of 0.08, muscle coordination becomes poor and it becomes harder to detect danger. Judgment, self control, reasoning, and memory are impaired (National Highway Traffic Safety Administration). At a BAC between 0.09 and 0.25, a person's reaction times are increased, there is reduced visual acuity, reduced peripheral vision and reduced glare recovery. The individual will experience a lack of sensory motor coordination, drowsiness, and major loss of balance (Intoximeters Incorporated). Having considered the physiological response of the human body to the introduction of alcohol, the next appropriate discussion should include applicable criminological theory.

2.8 Applicable Theory

In September of 2005, the National Highway Traffic Safety Administration (NHTSA), in conjunction with the Montana Department of Transportation, released the results of a demonstration project designed to test the efficacy of a high intensity social

norms media intervention to reduce the prevalence of driving after drinking among 21 to 34 year olds living in western Montana. The state of Montana's "Most of Us Don't Drink and Drive" campaign is based on social norms theory which contends that individual behavior is strongly influenced by their perceptions of the attitudes and behaviors of their peers. Simply stated, if a person believes that harmful behavior is acceptable, they are more likely to engage in it (Linkenbach & Perkins, 2005).

The United States Department of Health and Human Services Centers for Disease Control and Prevention reports that 61 percent of adults drank alcohol during 2003. Of those who reported drinking alcohol, 32 percent had five or more drinks on at least one day within the same year (National Center for Health Statistics, 2005). When people believe that there is social support for or against certain activities, they are more likely to change or continue their current behavior to act consistently with how they believe others feel about an issue. Applying social norms theory to alcohol consumption, there is a general acceptance of the consumption of alcohol as evidenced by previously mentioned statistics.

According to the United States Department of Health and Human Services (1997), a majority of Americans consume alcohol, but the majority of drinkers do not engage in violent behavior (Greenfield, 1998). Increased risk-taking associated with the physiological effects of alcohol and the decreased inhibitions of a person who has consumed alcohol tend to make social interactions more enjoyable. A person's decreased inhibitions and increased risk-taking leads to their engagement in behaviors that they might not normally entertain. Illicit drug use produces similar outcomes in the

social context yet it is widely accepted that there is a strong correlation between drug use and violent crime. Enforcement efforts of illicit drug use are accepted and encouraged because the mere possession and consumption of an illicit drug is a criminal offense.

There are two ways alcohol can be involved in crime. The first involves violation of laws regulating alcohol, its use, and distribution. These types of crimes include impaired driving, public intoxication, underage drinking, and illicit production of alcohol. The second manner in which alcohol can be related to crime involves alcohol's effects which might generate behavior that violates other laws (Leigh & Room, 2002). Violent Crimes are prevalent in the United States today and most involve aggression whether in homicide, family violence, sexual assault, or both assaults involving weapons and those that do not. According to the Federal Bureau of Investigation, violent crimes involve offenses of murder, forcible rape, aggravated assault, and robbery.

Tension reduction is the predominant functional reason for the use of alcohol by the general population. Alcohol use is viewed by the public as a means of regulating stress as it has a strong stress-dampening or stress buffering effect. Stress is measured by negative life events which include traumatic events in a person's life such as the death of a spouse or loss of employment. According to Venstra et al. (2006), threatening life events are among the most potent contextual stressors contributing to alcohol use. Stress can also be described as a chronic experience such as continuing job stress as measured through a chronic disorder or emotional distress such as anxiety or

depression (Venstra et al.). They cite evidence to support that life-events affect alcohol use and people who have experienced health-related life events in the past tend to use lower amounts of alcohol while crime victims tend to show a higher level of alcohol use.

According to Hawdon (2005), sociologists tend to explain alcohol use through two broad theoretical classifications. The first of these classifications that account for substance use patterns are social-psychological variables and personality traits. These theories rely on attitudinal variables to account for the vast variations in substance use. The second classification puts emphasis on social relations and how the consumer is attracted or detracted from alcohol use. Specifically, these theories rely on behavioral variables in explaining substance use patterns (Hawdon, 2005, p. 312). Obviously, criminological theories do not establish a cause and effect relationship between alcohol abuse and any social problem. They do, however, offer explanations that help the researcher understand the possible correlations between substance use and the factors that contribute to a person's decision to drink alcohol and participate in harmful behavior.

There are several theories that fall into the category of attitudinal based theories. These theories include self-degradation and self-esteem theory (Kaplan, 1975) and Gottfredson and Hirshi's (1990) "general theory of crime" or "self-control theory." Kaplan (1975) explains that all adolescents seek acceptance and approval for their behavior. However, when an adolescent's behavior is not acceptable to their friends, teachers, or parents; the adolescent experiences psychological distress. This distress

may produce feelings of self-rejection and if left unresolved, the adolescent will eventually develop a low self-esteem (Hawdon, 2005, p. 313).

Some adolescents with a low self-esteem adjust their behavior while others withdraw from the source of the stress. Those adolescents who withdraw are likely to develop a tendency toward deviance. Once they have withdrawn from their original social interactions, a new peer group likely develops and unlike the influence of the former peer group, the new one rewards their deviant tendencies. Substance use becomes a symbol of status among their new peers and dissipates the adolescent's feelings of rejection that developed from their low self-esteem (Hawdon, 2005, p. 313). Another theory of the inadequate personality is the "general theory of crime" or "self-control theory" as proposed by Gottfredson and Hirschi (1990).

According to these theorists, substance users and criminals generally lack self-control. This lack of self-control lends a substance user to inadequately control their behavior. They "tend to be impulsive, insensitive, physical, risk-taking, short sighted, and non-verbal" (Gottfredson & Hirshi, p. 90). Self-control theory is similar to rational choice theory in that those with low self-control are more likely to find value in the rewards of deviant behavior over the punishments that are associated with it because they fail to adequately weigh the consequences or negative outcomes associated with their behavior. In essence, those with low self-control put emphasis on the immediate rewards associated with substance use and overlook the potential dangers or pain associated with the harmful behavior (Hawdon, 2005, p. 314). Last, law-enforcement

countermeasures and strategies will be explored in an effort to provide the reader with an accurate understanding of current practices.

2.9 Combating Social Problems Associated with Alcohol

In the 1980s, significant national attention was given to the impaired driving problem, and significant reductions in the alcohol-related fatality rate were accomplished. Since that time, social norms theory has prevailed and alcohol as a serious social problem has lost its primacy. In a report titled “Initiatives to Address Impaired Driving,” The National Highway Traffic Safety Administration (2003) has outlined several initiatives to combat the compelling social problems created by the uninformed and underreported problem of irresponsible alcohol consumption. These initiatives include coordinated mass media campaigns similar to “Click it or Ticket,” increased screening and interventions by medical personnel in emergency departments, and vehicle based solutions.

Law enforcement countermeasures outlined by NHTSA include high visibility law enforcement, specialized Driving While Intoxicated (DWI) courts, focused training for DWI prosecutors, and increased efficiency in offender processing. For the purposes of this discussion, the law enforcement methods suggested will be highlighted to include saturation patrol strategies and the effectiveness and legality of sobriety checkpoints.

The objective of the public education and information media campaign is to deter harmful behavior by informing the public as to the enforcement crackdowns and to increase the public’s perception that harmful behavior associated with alcohol is too

risky to chance. The effectiveness of media campaigns targeting harmful behavior associated with alcohol consumption is measured through previous programs similar to the ones proposed by NHTSA.

In 2002, the “Friends Don’t Let Friends Drive Drunk” initiative resulted in approximately 84 percent of Americans seeing or hearing of the campaign. Of the Americans who reported knowledge of the media efforts, nearly 80 percent report having taken action to prevent someone from drinking and driving. About 25 percent report that they have ceased drinking and then driving all together (National Highway Traffic Safety Administration, 2003).

Another part of NHTSA’s effort to change behavior is through intentional interventions by medical personnel in emergency departments across the country. Their data show that over fifty percent of alcohol-involved drivers involved in fatal crashes have a BAC of 0.16 or more. Their research also indicates that a significant portion of dependent drinkers will seek professional intervention if it is recommended by health care professionals. Their research also shows that a significant percentage of at-risk drinkers can be positively changed by receiving counseling from a reliable source, such as a health care professional. NHTSA is in the development stages of providing material to health care professionals designed to assist in the screening of high-risk populations for alcohol use problems.

Another strategy is to implement vehicle-based countermeasures to combat the impaired driving problem (National Highway Traffic Safety Administration, 2003). Newer vehicles are equipped with the capability to monitor electronic intelligence that

is utilized for control of motor vehicles mechanical functions including braking, steering, handling and transmission control. They also include advanced safety and navigation systems such as navigation systems and automatic collision notifications. NHTSA is recommending utilization of intelligence features that have an understanding of human physiology as it relates to alcohol consumption. They propose that intelligent sensors be included that could unobtrusively monitor the physical condition and performance of the driver and identify impairment or other unsafe driving patterns (National Highway Traffic Safety Administration, 2003).

On November 20, 2006, Mothers Against Drunk Driving (MADD) launched its national *Campaign to Eliminate Drunk Driving* which aims to eliminate drunk driving in the United States. Consistent with NHTSA's recommendation, MADD is suggesting full implementation of current alcohol ignition interlock technologies which includes efforts to require alcohol ignition interlock devices for all convicted drunk drivers. They are calling for an exploration of advanced vehicle technologies through the establishment of a "Blue Ribbon Panel" of international safety experts to assess the feasibility of a range of technologies that would prevent impaired driving. MADD reports that the public overwhelmingly supports this effort by a 4 to 1 margin or 58 percent to 16 percent (Mothers Against Drunk Driving, 2006).

One can argue that law enforcement plays an integral part in addressing the social problems caused by alcohol. NHTSA supports increased high visibility enforcement by soliciting participation from the nation's police departments. They specifically mention saturation patrols and sobriety checkpoints as effective measures in

combating impaired driving and creating a general deterrence. When the public perceives that there is increased risk in being detected, they are likely to change their behavior, thereby deterring impaired driving (National Highway Traffic Safety Administration, 2003).

Saturation patrols are one method that can be used to accomplish this goal. They are simply coordinated law enforcement efforts in locations known to have a high concentration of alcohol-related arrests, crashes, injuries, and fatalities. Law enforcement agencies accomplish this goal through cooperative efforts or joint task forces where agencies join together for a concerted effort in combating alcohol-related offenses. One such program is the “Avoid the 50” program out of Claremont, California. The number 50 refers to the number of agencies that participate in this effort. This program’s effectiveness is measured by a 56 percent decline in alcohol-related fatality crashes in 2002-2003 (Stuster, 2006).

Another law enforcement strategy is the agency’s formation of a dedicated unit whose purpose is to address driving while impaired and alcohol-related offenses. In 1998, the Austin, Texas Police Department created a unit whose goal was to decrease alcohol-related fatalities by 15 percent in the year following the formation of the DWI unit. Officers were given special training to encourage the enforcement of driving while impaired laws. They were also encouraged to make enforcement stops for the full range of traffic offenses. Their deployment methods included both city-wide and concentrated strategies in areas where there were high instances of alcohol-related collisions and offenses. The results of their efforts led to an overall 25 percent decline

in alcohol-related fatality collisions between 1998 and 2001. They also experienced a 10 percent increase in their conviction rate for impaired driving offenses (Stuster, 2006).

Sobriety checkpoints have also been successful in creating a general deterrence of high-risk behavior associated with driving after consuming alcohol. Sobriety checkpoints are simply operations where law enforcement agencies station officers at particular locations and systematically stop vehicles as they proceed through the checkpoint. The objective is for officers to recognize drivers who have consumed alcohol and arrest those individuals who are impaired. For many states, this has proven to be effective in addressing the problem of impaired driving. According to the United States (U.S.) Supreme Court, roadblock stops established to identify intoxicated drivers are not inherently illegal. In Texas, however, the Court of Criminal Appeals has interpreted the U.S. Supreme Court case law on roadblocks to require statewide authorization which has not been enacted by the Texas Legislature (Alpert, 2005).

CHAPTER THREE

METHODOLOGY

Based on the previous synthesis of related literature, it is clear that the academic performance thus far has not focused on undergraduate students' perceptions of harmful alcohol consumption as a social problem and specifically, alcohol's relationship with crime. Therefore, the purpose of this study is to examine undergraduate students' perception of harmful alcohol consumption as a social problem and specifically, alcohol's relationship with crime. In the review of related literature, several social harms were explored in an effort to paint an adequate picture of the detrimental effects harmful alcohol consumption causes communities. These effects may include illness-related absenteeism as it correlates with possible losses in productivity and those affects on the local economy; alcohol use and aggression as alcohol is highly correlated with violent crime including domestic violence; underage drinking; and fatal vehicular crashes that are related to alcohol.

Therefore, for the purposes of this study, datum related to the perceptions and attitudes toward alcohol consumption has been gathered from University of Texas at Arlington Criminology and Criminal Justice undergraduate students. The measures of the perceptions from the sample will be coupled with the synthesis of related literature to make suggestions for future research and policy recommendations in combating the

growing problem of alcohol consumption as it relates specifically to violent crime and alcohol-related fatality crashes (Chapter 5). However, this chapter will outline the topics relevant to the manner by which the datum for this study was collected, analyzed, and evaluated.

This research is cross-sectional and quantitative in nature as a single observation of many individuals was facilitated through the use of a survey that was developed by this author to measure individual's perceptions of alcohol consumption. The survey instrument was developed and submitted to the Institutional Review Board for the Protection of Human Subjects (IRB) through the University of Texas at Arlington's (UTA) Office of Research Compliance. A survey instrument was the most appropriate method by which data could be gathered to study perceptions of alcohol consumption as it can be self-administered and participants are not threatened or pressured as they respond to the items contained within. This chapter discusses the sample and sample size, the survey instrument, survey implementation, and the analysis procedures.

3.1 Sample and Sample Size

For the purposes of this study, a quantitative cross sectional empirical approach was utilized to measure undergraduate students' perception of alcohol consumption as a social problem and its relationship to crime. Participants of the study were undergraduate students attending Criminology and Criminal Justice (CRCJ) classes on the campus of University of Texas at Arlington (see Table 3.1). Classes were chosen based solely on the convenience of the researcher thus making the sample a non-probability convenience sample. Only undergraduate courses within the Criminology

and Criminal Justice Department were chosen to participate in the study. During the Spring 2008 semester, there were a total of thirty (30) courses from which to choose. Students enrolled in conference courses or web-based courses were excluded from participating in the study. The demographics and sample details will be discussed in chapter four.

In order to ensure that Type I error (the probability of rejecting a true null hypothesis) and Type II error (the probability of retaining a false null hypothesis) are in reasonable balance, the power of the study will be estimated at .80, in other words, there is an estimated 80 percent chance that differences will be detected between the variables. This is in accordance with the recommendations of Jacob Cohen, a renowned statistician, so that nuisance variables are adequately controlled and the sample size is large enough to produce the results that are detectably significant in this study. The .80 power level will be used in this study as setting this level higher will require more subjects than are necessary to accomplish the intended goals (Keppel, Saufley, & Tokunaga, 1992, p. 215). Based upon recommendations of researchers cited in this chapter, the number of participants in this study totaled one hundred sixty six (N=166).

3.2 Survey Instrument

The researcher created a survey, drawn from the literature review, that would measure the perceptions of alcohol consumption as a social problem, alcohol consumption as it relates to aggression and crime, and gather demographic datum on each participant. The first eighteen items of the survey were constructed using the 5-point Likert Scale. Survey participants were asked to select a response on a scale from

“1” to “5” with “1” indicating the strongest level of agreement and “5” indicating the strongest level of disagreement. The scale began with a positive response (1 – “Agree Strongly”) and moved toward negative responses (5 – “Disagree Strongly”). Intermediate responses included “2” through “4” having assigned values of Agree, Neutral, and Disagree, respectively. Because the intent of the survey is to measure the perceptions of the participants, all questions are treated as such.

Items nineteen through thirty one of the survey collected demographical data from each of the participants. The demographical datum collected included gender, age, race/ethnicity, marital status, income, voter registry status, employment status, and level of education. Additionally, questions were included to gauge the alcohol consumption patterns of the participants. One such question of interest asked participants about the alcohol consumption patterns of their parents. Each demographical item provided either ordinal or categorical responses in conjunction with the question presented. Item thirty- two of the survey, while categorical in nature, involved ascertaining if any of the participants has ever sought assistance related to harmful alcohol consumption.

The survey instrument was included with all required paperwork and was submitted to the IRB for evaluation and authorization. Initially, the intent of the author was to administer the survey to undergraduate Criminology and Criminal Justice students during the Fall 2007 semester. This intention did not prove feasible, therefore, requests to amend the intended participants and amend title of the study were ultimately approved by the IRB. Administration of the survey during the Spring 2008 semester

was successful. Additionally, approval was granted by the Police Chief of the Arlington, Texas Police Department for use of any statistical datum that will be included within policy implication discussions during Chapter 5.

3.3 Survey Implementation

After receiving a letter of authorization from the IRB, the researcher contacted University of Texas at Arlington undergraduate professors to obtain permission to administer the survey instrument. With the exception of two undergraduate courses that will be identified, the researcher administered the survey for this study. The first page of the survey explained the intent of the study to all participants and included a statement explaining to participants that the study was purely voluntary and that participation was not mandatory. The survey summary was also clear in its explanation that all responses to the items of the survey would remain strictly confidential. In addition to this explanation, the researcher verbally explained these facts and requested participation. Because some participants attended multiple courses where the survey was administered, participants were requested to complete the survey only once.

Approval was granted from six professors for the survey to be administered at the beginning or end of their respective courses. Adequate time was allowed for completion of the survey. Upon completion of the survey, the researcher took steps to ensure that the surveys remained anonymous. A summary of the courses that were conveniently selected for participation are included in Table 3.1.

Table 3.1. Selected Spring 2008 UTA CRCJ Undergraduate Courses

Course Number	Section	Course Title
CRCJ 3350	02	INTRODUCTION TO RESEARCH METHODS IN CRIMINOLOGY AND CRIMINAL JUSTICE
CRCJ 3390	01	VICTIMOLOGY
CRCJ 4301	01	THE AMERICAN JUDICIAL SYSTEM
CRCJ 4380	01	COMPARATIVE CRIMINAL JUSTICE SYSTEMS
CRCJ 4387	01	TOPICS IN CRIME AND CRIMINOLOGY
CRCJ 4388	01	TOPICS IN LAW AND JUDICIAL PROCESSES

3.4 Analysis Procedure

This study is both qualitative and quantitative in nature in that it will analyze existing data in conjunction with new data gathered from the results of the proposed survey. The quantitative portion of the study utilized a cross-sectional experimental design in that participants are exposed to the survey in a single sitting with a subsequent observation of their responses to questions related to their perceptions of the social costs/consequences of alcohol consumption as they relate to crime. Once the data were collected, the Statistical Package for the Social Sciences 16.0 (SPSS) was used to run two statistical tests controlling for variables as they are outlined on the survey.

The first test is the one-sample (two-tailed) t-test. This test measures the difference between the intended variables and is the most popular test of difference. The two-tailed test is a test that considers both ends of the distribution, whether the distribution is a normal curve distribution, the sampling distribution of means, or the sampling distribution of differences. Negative results are just as meaningful as positive results because the test examines both ends of the distribution (Thorne & Giesen, 2000). In short, the one-sample t-test provides statistical analysis as to the differences in the means of the responses. This test was chosen to determine if there was a statistically

significant difference between means using race (white versus non-white) as the first controlling variable. The next controlling variable is related to categorical responses (yes or no) of the survey item: “Did your family regularly consume alcoholic beverages in your presence as you were growing up?”

The next test utilized is the Pearson’s r correlation coefficient. This test is the mean of the z -score products for pairs of data. Most simply stated, the Pearson’s r tests the correlations between variables and measures the strength of that relationship. It identifies the location of a particular score in a distribution relative to the distribution’s z -score mean. If the score is above the mean, it is reported positive; if the score is below the mean, the z -score is negative. A positive correlation indicates that both variables have the same sign (+/-). A negative correlation, or inverse relationship, indicates high scores with one variable and low scores with the other. The level of significance for this test is usually set at 5% (Thorne & Giesen, 2000).

This test proved to be the most appropriate method by which the researcher determined if there were correlations between all of the perception questions that were included in the survey (the first eighteen questions). Once all statistical manipulations were complete, the results were compiled into tables and charts that are relevant to the study. In addition, the demographic data will be compared to the demographical make-up of the City of Arlington. These results will be discussed in Chapter 4.

CHAPTER FOUR

FINDINGS

This chapter is devoted to reporting the findings of the study as they relate to the perceptions of alcohol consumption by undergraduate students in the Department of Criminology and Criminal Justice at the University of Texas at Arlington. Discussions include the demographics of the respondents and the statistical manipulations that were performed including the two-tailed t-test of difference and the Pearson's r correlation coefficient. Conclusions and policy related discussions will be included in chapter five. For reference, a complete copy of the survey instrument is included as Appendix A.

4.1 Demographics

The survey instrument contained eight items that captured the demographics of the respondents. Of the 166 (N=166) completed surveys, the majority of the respondents are female (54.2%, N=90) and 45.8% (N=76) are male. The respondents were asked to report their age using six different categories. Of the respondents who completed this survey 75.3% (N=125) are between the ages of 18-25, 15.1 % (N=25) are between the ages of 26-30, 7.2% (N=12) are between the ages of 31-40, 1.8% (N=3) are between the ages of 41-55, and 0.6% (N=1) is between the ages of 56-65. There were no respondents who indicated that they were older than 65 years of age.

For the purposes of this study, respondents were asked to provide the researcher with their race by choosing one of five different categories. The five categories are White, Black/African American, Hispanic/Latino, Asian, and Other. The data indicates that 47.6% (N=79) of the respondents are White, 18.7% (N=31) of the respondents are Black/African American, 25.9% (N=7) are Hispanic/Latino, 4.2% (N=7) are Asian, and 3% (N=5) categorized their race in the “Other” category. Because race is a controlling variable in the statistical manipulations performed for this study, the demographics question pertaining to race was grouped into two categories that included “White” and “Non-White.” After simplifying the categories of race in this fashion, 47.6% (N=79) are White and 51.8% (N=86) are Non-White. When comparing all responses for race, the corresponding percentages as well as the total respondents total only 165 (N=165) as one respondent did not indicate their race.

The next demographical question sought to determine the marital status of the subjects completing the survey. To accomplish this goal, respondents were asked to choose one of four categories describing their marital status. Of the total respondents completing the survey (N=166), 76.5% (N=127) indicated that they are single, 16.3% (N=27) indicated that they are married, 5.4% (N=9) indicated they are divorced, and 0.6% (N=1) indicated they are separated. There were two respondents that did not choose one of the four categories to report their marital status.

Respondents were asked to report their gross income by choosing one of six different categories. Of the total respondents (N=166), 53.6% (N=89) reported their income between \$0 and \$20,000, 30.7% reported their income between \$20,001 and

\$40,000, 9.6% (N=16) reported their income between \$40,001 and \$65,000, 3% (N=5) reported their income between \$65,001 and \$90,000, and 2.4% (N=4) reported their income between \$90,001 and \$100,000. There were no respondents that indicated earning more than \$100,000 per year. For this demographics question, one respondent did not indicate their income level by choosing one of the categories.

The researcher sought to capture the voter registry status of the respondents by asking respondents to report whether or not they are a registered voter. For the purposes of this survey, respondents were asked to choose “yes” or “no” to indicate whether or not they are currently registered to vote. Of the respondents (N=166), 85.5% (N=142) indicated that they are registered voters while 14.5% (N=24) indicated they are not currently registered to vote.

The next demographical variable captured by this survey sought to ascertain the employment status of the respondents. Of the respondents who completed this survey, 41% (N=68) indicated that they currently work full-time jobs, 44% (N=73) indicate they currently work part-time jobs, 10.8% (N=18) indicate they are unemployed, and 3% (N=5) report they are currently looking for work.

The last demographical category sought to capture the educational background of the respondents. Of the respondents who completed this survey, 4.2% (N=7) indicated they were high school graduates or possessed a GED, 83.1% (N=138) reported completing some college, while 12% (N=20) reported possessing a Bachelor’s degree. There were no respondents who reported completing courses at the graduate

level. Table 4.1 provides a complete demographics summary of the respondents for this study.

Table 4.1. Demographics

DEMOGRAPHICS	
Gender	Percent
Male	45.8
Female	54.2
Age	Percent
18-25	75.3
26-30	15.1
31-40	7.2
41-55	1.8
56-65	0.6
Over 65	0.0
Race / Ethnicity	Percent
White	47.6
Non-White	51.8
Race / Ethnicity	Percent
White	47.6
Black / African American	18.7
Hispanic / Latino	25.9
Asian	4.2
Other	3.0
Marital Status	Percent
Single	76.5
Married	16.3
Divorced	5.4
Separated	0.6
Gross Income	Percent
\$0 - \$20,000	53.6
\$20,001 - \$40,000	30.7
\$40,001 - \$65,000	9.6
\$65,001 - \$90,000	3.0
\$90,001 - \$100,000	2.4
\$100,001 and up	0.0
Registered Voter	Percent
Yes	85.5
No	14.5
Employment	Percent
Full-time	41.0
Part-time	44.0
Unemployed	10.8
Looking for Work	3.0
Education	Percent
High School Graduate / GED	4.2
Some College	83.1
Bachelor's Degree	12.0
Master's Degree	0.0

4.2 Race

The survey instrument presented respondents with eighteen items that sought to measure the perceptions of alcohol consumption among undergraduate students. To accomplish this goal, students who were currently attending classes in the University of Texas at Arlington's Department of Criminology and Criminal Justice were chosen to participate in the study. The first variable that is used to determine if there are statistically significant differences among the means of responses is race. As explained in the demographics section, respondents were asked to complete the survey, and in doing so, they were asked to indicate if they were White, Black/African American, Hispanic/Latino, Asian, or Other. All respondents who indicated they are "White" might be defining themselves as a person whose racial heritage is predominantly Caucasian as the survey instrument did not define any of the categories given for reporting the respondent's race (Dictionary.com, 2006). The remaining categories that included Black/African American, Hispanic/Latino, Asian, and Other were coded into a single category "Non-White" using SPSS.

Using SPSS, a two-tailed t-test was performed to determine if there are statistically significant differences between the mean of white respondents versus non-white respondents. Out of the eighteen variables that tested the respondent's perceptions of alcohol consumption, only four variables showed a statistically significant difference at the .05 level ($\alpha=.05$) while two showed a statistically significant difference at the .01 level ($\alpha=.01$). A complete list of means and p-values for the groups of "White" respondents and "Non-White" respondents is provided in Table 4.2.

Table 4.2. Means and p-values Comparing Whites and Non-Whites

Perception	Variable	White Mean	Non-White Mean	p-value	
	1	Alcohol use in the United States, and more specifically Texas, is a problem that requires the attention of law enforcement.	2.38	2.19	.052
	2	Alcohol use in Tarrant County is a problem that requires the attention of law enforcement.	2.51	2.48	.734
	3	Alcohol is more closely related to violent crime than any other illicit drug including methamphetamines, cocaine, and marijuana.	2.91	2.65	.041*
	4	Alcohol is the primary cause of property crimes that occur in the City of Arlington.	3.31	3.24	.463
	5	In my experience, alcohol use tends to result in aggressive behavior.	2.54	2.33	.065
	6	Murder is typically associated with alcohol.	3.32	3.42	.404
	7	Family Violence is typically associated with alcohol.	2.00	2.01	.904
	8	Alcohol use is a social problem that harms all members of society.	2.95	2.37	.000**
	9	Individuals who consume alcohol on a regular basis, stay home from work on a regular basis due to illness.	3.34	2.94	.001**
	10	I regularly call in sick to work after drinking heavily the night prior to my work day.	4.52	4.20	.013*
	11	Drinking alcohol at social functions is a norm in my community.	2.14	2.24	.398
	12	There is no problem with drinking alcohol and driving myself home as long as I am not "buzzed."	3.28	3.16	.446
	13	I routinely drive myself home from social functions even though I feel slightly "buzzed."	4.08	3.73	.024*
	14	I believe it is okay for minors (under 21) to consume alcohol as long as they are not driving.	3.53	3.90	.013*
	15	It is normal for those under 21 to drink at parties.	2.20	2.31	.377
	16	Police Officers are not able to accurately gauge if a person is intoxicated through Field Sobriety Tests.	3.46	3.31	.285
	17	Addressing issues related to drinking and driving is a waste of time and tax dollars.	4.29	4.42	.497
18	There are usually more drunk drivers on the freeways than police officers can stop and arrest on a given day.	2.05	2.17	.296	

*Statistically significant at the .05 confidence level

**Statistically significant at the .01 confidence level

For the variable “Alcohol is more closely related to violent crime than any other illicit drug including methamphetamines, cocaine, and marijuana,” a two-tailed significance level (p-value) of .041 was produced at the .05 confidence level. With this variable, the mean for the white respondents is 2.91 while the mean for the non-white respondents is 2.65. This indicates that while both groups tend to agree with the statement, there is a statistically significant difference between the means of white and non-white respondents.

Considering the variable “I regularly call in sick to work after drinking heavily the night prior to my work day,” a two-tailed significance level (p-value) of .013 was produced at the .05 confidence level. With this variable, the mean for the white respondents is 4.52 while the mean for the non-white respondents is 4.20. This indicates that while both groups tend to disagree with the statement, there is a statistically significant difference between the means of white and non-white respondents.

“I routinely drive myself home from social functions even though I feel slightly ‘buzzed’” produced a two-tailed significance level (p-value) of .024 at the .05 confidence level. The mean for white respondents is 4.08 while the mean for non-white respondents is 3.73. This indicates that while both groups tend to disagree with the statement, there is a statistically significant difference between the means of white and non-white respondents.

For the variable “I believe it is okay for minors (under 21) to consume alcohol as long as they are not driving,” a two-tailed significance level (p-value) of .013 at the

.05 confidence level. The mean for white respondents is 3.53 and the mean for non-white respondents is 3.90. This indicates that while both groups lean toward disagreement with the statement, there is a statistically significant difference between the means of white and non-white respondents.

At the .01 confidence level ($\alpha=.01$), the variable “Alcohol use is a social problem that harms all members of society” produced a two-tailed significance level (p-value) of .000. The mean for white respondents is 2.95 and the mean for non-white respondents is 2.37. While both groups tended to agree with this statement, there is a statistically significant difference between the white respondents and non-white respondents.

The variable “Individuals who consume alcohol on a regular basis, stay home from work on a regular basis due to illness,” produced a two-tailed significance level (p-value) of .001 at the .01 confidence level. The mean for white respondents is 3.34 while the mean for non-white respondents is 2.94. The white respondents tended to disagree with this statement while the non-white respondents tended to agree with the statement. Comparing the responses of the two groups resulted in a statistically significant difference in the means.

Of the thirteen remaining variables, none showed to have statistically significant differences between male and female responses. For the variable “Alcohol use in the United States, and more specifically Texas, is a problem that requires the attention of law enforcement,” the mean for white respondents is 2.38 and mean for non-white respondents is 2.19. There is no significant difference in the white and non-white

responses for this variable as the two-tailed p-value is .052. Both groups generally agreed that alcohol use is a problem that requires the attention of law enforcement.

While considering the variable, “Alcohol use in Tarrant County is a problem that requires the attention of law enforcement,” the mean for white respondents is 2.51 and mean for non-white respondents is 2.48. There is no significant difference in the white and non-white responses for this variable as the two-tailed p-value is .734. Both groups generally agreed that alcohol use in Tarrant County is a problem that requires the attention of law enforcement.

For the variable “Alcohol is the primary cause of property crimes that occur in the City of Arlington,” the white respondent’s mean is 3.31 while the non-white respondent’s mean is 3.24. There is no significant difference in the white and non-white responses for this variable as the two-tailed p-value is .463. Both groups tended to disagree that alcohol is the primary cause of property crimes that occur in the City of Arlington.

For the variable “In my experience, alcohol use tends to result in aggressive behavior,” the white respondent’s mean is 2.54 while the non-white respondent’s mean is 2.33. There is no significant difference in the white and non-white responses for this variable as the two-tailed p-value is .065. Both groups agreed that alcohol use tends to result in aggressive behavior.

Considering the variable “Murder is typically associated with alcohol,” the white respondent’s mean is 3.32 while the non-white respondent’s mean is 3.42. There is no significant difference in the white and non-white responses for this variable as the

two-tailed p-value is .404. Both groups of respondents tended to disagree that murder is typically associated with alcohol.

For the variable “Family violence is typically associated with alcohol,” the white respondent’s mean is 2.00 and the non-white respondent’s mean is 2.01. There is no significant difference in the white and non-white responses for this variable as the two-tailed p-value is .904. While the means of both groups agreed that family violence is typically associated with alcohol, their means were very close.

For the variable “Drinking alcohol at social functions is a norm in my community,” the white respondent’s mean is 2.14 and the non-white respondent’s mean is 2.24. There is no significant difference in the white and non-white responses for this variable as the two-tailed p-value is .398. Both groups agreed that drinking alcohol at social functions is a norm in their community.

For the variable “There is no problem with drinking alcohol and driving myself home as long as I am not ‘buzzed,’” the white respondent’s mean is 3.28 and the non-white respondent’s mean is 3.16. There is no significant difference in the white and non-white responses for this variable as the two-tailed p-value is .446. Both groups tended to believe that there is a problem with drinking alcohol and driving themselves home.

“It is normal for those under 21 to drink at parties” produced a t-test comparison (p-value) of .377 indicating that there is no significant difference between the means of white and non-white respondents. The means for white respondents is 2.20 and the

mean for non-white respondents is 2.31. Both groups tended to agree that it is normal for those under 21 to drink at parties.

The variable “Police Officers are not able to accurately gauge if a person is intoxicated through field sobriety tests,” produced a t-test comparison (p-value) of .285 indicating that there is no significant difference between the means of white and non-white respondents. The white respondent’s mean is 3.46 and the non-white respondent’s mean is 3.31. Both groups tended to disagree with the statement as presented.

For the variable “Addressing issues related to drinking and driving is a waste of time and tax dollars,” the white respondent’s mean is 4.29 while the non-white respondent’s mean is 4.42. There is no significant difference in the white and non-white responses for this variable as the two-tailed p-value is .497. Both groups of respondents tended to disagree that addressing issues related to drinking and driving is a waste of time and tax dollars.

For the variable “There are usually more drunk drivers on the freeways than police officers can stop and arrest on a given day,” the white respondent’s mean is 2.05 and the non-white respondent’s mean is 2.17. There is no significant difference in the white and non-white responses for this variable as the two-tailed p-value is .296. Both groups of respondents tended to agree that there are usually more drunk drivers on the freeways than police officers can stop and arrest on a given day.

4.3 Family Consumption versus No Family Consumption

Using SPSS, a two-tailed t-test was used to determine if there are statistically significant differences between the mean of those respondents who reported that their family regularly consumed alcoholic beverages in their presence as they were growing up versus those who reported that their family did not consume alcoholic beverages in their presence as they were growing up. Out of the eighteen variables that tested the respondent's perceptions of alcohol consumption, only two variables showed a statistically significant difference at the .05 level ($\alpha=.05$) while eight showed a statistically significant difference at the .01 level ($\alpha=.01$). A complete list of means and p-values for the groups of "Family Consumption" respondents and "No Family Consumption" respondents is provided in Table 4.3.

Table 4.3. Means and p-values Comparing Family Consumption and No Family Consumption

		Family Consumption	No Family Consumption	p-value	
Perception	1	Alcohol use in the United States, and more specifically Texas, is a problem that requires the attention of law enforcement.	2.31	2.23	.423
	2	Alcohol use in Tarrant County is a problem that requires the attention of law enforcement.	2.60	2.39	.031*
	3	Alcohol is more closely related to violent crime than any other illicit drug including methamphetamines, cocaine, and marijuana.	2.96	2.65	.003**
	4	Alcohol is the primary cause of property crimes that occur in the City of Arlington.	3.47	3.12	.001**
	5	In my experience, alcohol use tends to result in aggressive behavior.	2.56	2.36	.080
	6	Murder is typically associated with alcohol.	3.56	3.23	.003**
	7	Family Violence is typically associated with alcohol.	2.07	1.97	.257
	8	Alcohol use is a social problem that harms all members of society.	2.81	2.52	.013*
	9	Individuals who consume alcohol on a regular basis, stay home from work on a regular basis due to illness.	3.43	2.94	.000**
	10	I regularly call in sick to work after drinking heavily the night prior to my work day.	4.56	4.21	.004**
	11	Drinking alcohol at social functions is a norm in my community.	1.79	2.52	.000**
	12	There is no problem with drinking alcohol and driving myself home as long as I am not "buzzed."	2.99	3.39	.005**
	13	I routinely drive myself home from social functions even though I feel slightly "buzzed."	3.86	3.93	.634
	14	I believe it is okay for minors (under 21) to consume alcohol as long as they are not driving.	3.54	3.88	.008**
	15	It is normal for those under 21 to drink at parties.	2.20	2.33	.358
	16	Police Officers are not able to accurately gauge if a person is intoxicated through Field Sobriety Tests.	3.41	3.36	.696
	17	Addressing issues related to drinking and driving is a waste of time and tax dollars.	4.21	4.28	.427
	18	There are usually more drunk drivers on the freeways than police officers can stop and arrest on a given day.	2.01	2.20	.089

*Statistically significant at the .05 confidence level

**Statistically significant at the .01 confidence level

The variable “Alcohol use in Tarrant County is a problem that requires the attention of law enforcement,” showed to have a two-tailed significance level (p-value) of .031 at the .05 confidence level. With this variable, the mean for those respondents who indicated consumption of alcoholic beverages by family members in their presence growing up (Family Consumption) is 2.60 while the mean for those respondents who indicated no consumption of alcoholic beverages by family members in their presence growing up (No Family Consumption) is 2.39. This indicates that while both groups tend to agree with the statement and there is a statistically significant difference between the means of “Family Consumption” and “No Family Consumption.” For the following explanations of findings, the terms “Family Consumption” and “No Family Consumption” will be used to describe the controlling variables as described above.

“Alcohol use is a social problem that harms all members of society,” showed to have a two-tailed significance level (p-value) of .013 at the .05 confidence level. With this variable, the mean for the family consumption respondents is 2.81 while the mean for the no family consumption respondents is 2.52. This indicates that while both groups tend to agree with the statement, there is a statistically significant difference between the means of the respondents.

“Alcohol is more closely related to violent crime than any other illicit drug including methamphetamines, cocaine, and marijuana,” produced a two-tailed significance level (p-value) of .003 at the .01 confidence level. The mean for family consumption respondents is 2.96 and the mean for the no family consumption

respondents is 2.65. While both groups tended to agree with this statement, there is a statistically significant difference between the respondents.

The variable “Alcohol is the primary cause of property crimes that occur in the City of Arlington,” produced a two-tailed significance level (p-value) of .001 at the .01 confidence level. The mean for family consumption respondents is 3.47 while the mean for no family consumption respondents is 3.12. Comparing the responses of the two groups resulted in a statistically significant difference in the means. Both groups indicated disagreement that alcohol is the primary cause of property crimes that occur in the City of Arlington.

Considering the variable “Murder is typically associated with alcohol,” it produced a two-tailed significance level (p-value) of .003 at the .01 confidence level. The mean of family consumption respondents is 3.56 and the mean for no family consumption respondents is 3.23. Comparing the responses of the two groups resulted in a statistically significant difference in the means. Both groups indicated that they disagreed that murder is typically associated with alcohol.

For the variable “Individuals who consume alcohol on a regular basis, stay home from work on a regular basis due to illness” a two-tailed significance level (p-value) of .000 was produced at a .01 confidence level. The mean of family consumption respondents is 3.43 while the mean for no family consumption respondents is 2.94. This comparison resulted in a statistically significant difference in the means. The family consumption respondents tended to disagree with this statement while the no family consumption respondents tended to agree.

“I regularly call in sick to work after drinking heavily the night prior to my work day.” produced a two-tailed significance level (p-value) of .004 at the .01 confidence level. The mean of family consumption respondents is 4.56 and the mean for no family consumption respondents is 4.21. Comparing the responses of the two groups resulted in a statistically significant difference in the means. Both groups indicated that they disagreed with the statement as presented.

“Drinking alcohol at social functions is a norm in my community,” produced a two-tailed significance level (p-value) of .000 at the .01 confidence level. The mean of family consumption respondents is 1.79 and the mean for no family consumption respondents is 2.52. Comparing the responses of the two groups resulted in a statistically significant difference in the means. While both groups tended to agree that drinking alcohol at social functions is a norm in their community, the family consumption respondents tended to lean toward strong agreement while the no family consumption respondents generally agreed with the statement as presented.

For the variable “There is no problem with drinking alcohol and driving myself home as long as I am not ‘buzzed,’” a two-tailed significance level (p-value) of .005 was produced at the .01 confidence level. The mean of family consumption respondents is 2.99 and the mean for no family consumption respondents is 3.39. Comparing the responses of the two groups resulted in a statistically significant difference in the means. The family consumption respondents tended to agree with the statement while the no family consumption respondents tended to disagree.

For the variable “I believe it is okay for minors (under 21) to consume alcohol as long as they are not driving,” a two-tailed significance level (p-value) of .008 was produced at the .01 confidence level. The mean of family consumption respondents is 3.54 and the mean for no family consumption respondents is 3.88. Comparing the responses of the two groups resulted in a statistically significant difference in the means. Both groups indicated that they disagreed that it is okay for minors (under 21) to consume alcohol as long as they are not driving.

Of the eight remaining variables, none showed to have statistically significant differences between family consumption and no family consumption responses. For the variable, “Alcohol use in the United States, and more specifically Texas, is a problem that requires the attention of law enforcement,” the mean for family consumption respondents is 2.31 and mean for no family consumption respondents is 2.23. There is no significant difference in the white and non-white responses for this variable as the two-tailed p-value is .423. Both groups generally agreed that alcohol use in the United States is a problem that requires the attention of law enforcement.

For the variable “In my experience, alcohol use tends to result in aggressive behavior,” the family consumption respondent’s mean is 2.56 while the no family consumption respondent’s mean is 2.36. There is no significant difference in the family consumption and no family consumption responses for this variable as the two-tailed p-value is .080. Both groups agreed that alcohol use tends to result in aggressive behavior.

For the variable “Family violence is typically associated with alcohol,” the family consumption respondent’s mean is 2.07 and the no family consumption respondent’s mean is 1.97. There is no significant difference in the family consumption and no family consumption responses for this variable as the two-tailed p-value is .257. Both groups agreed with the statement that family violence is typically associated with alcohol.

“I routinely drive myself home from social functions even though I feel slightly ‘buzzed’” produced a t-test comparison (p-value) of .634 indicating that there is no significant difference between the means of family consumption and no family consumption respondents. The means for family consumption respondents is 3.86 and the mean for no family consumption respondents is 3.93. Both groups tended to disagree that they routinely drive themselves home from social functions even though they may feel slightly “buzzed.”

“It is normal for those under 21 to drink at parties” produced a t-test comparison (p-value) of .358 indicating that there is no significant difference between the means of family consumption and no family consumption respondents. The means for family consumption respondents is 2.20 and the mean for no family consumption respondents is 2.33. Both groups tended to agree that it is normal for those under 21 to drink at parties.

The variable “Police Officers are not able to accurately gauge if a person is intoxicated through field sobriety tests,” produced a t-test comparison (p-value) of .696 indicating that there is no significant difference between the means of family

consumption and no family consumption respondents. The family consumption respondent's mean is 3.41 and the no family consumption respondent's mean is 3.36. Both groups tended to disagree with the statement as presented.

For the variable "Addressing issues related to drinking and driving is a waste of time and tax dollars," the family consumption respondent's mean is 4.21 while the no family consumption respondent's mean is 4.28. There is no significant difference in the family consumption and no family consumption responses for this variable as the two-tailed p-value is .427. Both groups of respondents tended to disagree strongly that addressing issues related to drinking and driving is a waste of time and tax dollars.

In comparing the variable "There are usually more drunk drivers on the freeways than police officers can stop and arrest on a given day," the family consumption respondent's mean is 2.01 and the no family consumption respondent's mean is 2.20. There is no significant difference in the family consumption and no family consumption responses for this variable as the two-tailed p-value is .089. Both groups of respondents tended to agree that there are usually more drunk drivers on the freeways than police officers can stop and arrest on a given day.

4.4 Correlations

The Pearson's r correlation coefficient tests the strength of the relationships between variables. Table 4.4 shows the results of this test to determine the relationship between all eighteen perception variables. Both $\alpha=.05$ and $\alpha=.01$ are indicated on the chart. Because there are many variables that have resulted in correlations, only the strongest correlations will be discussed. Since a perfect correlation is the correlation value that is closest to 1.0, all variables that yielded a correlation value above .400 will be discussed. Interestingly, all of the correlation values above .400 yielded a confidence level of $\alpha=.01$ as described in subsequent sections.

Table 4.4. Pearson's r Correlation Matrix Comparing All Variables

18											.167*							
17	-.250**	-.238**			-.173*				-.170*			.284**	.278**	.360**	.173*	.405**		
16		-.166*										.212**	.226**	.223**	.173*		.405**	
15	-.210**										.208**		.200*	.395**		.173*	.173*	
14	-.272**	-.341**	-.205**						-.320**	-.252**		.188*	.385**	.283**		.395**	.223**	.360**
13		-.166*									.242**	.302**	.532**		.283**	.200*	.226**	.278**
12		-.190*							-.205**			.230**		.532**	.385**		.212**	.284**
11												.230**	.302**	.188*	.280**			.167*
10									.168*				.242**					
9	.229**	.312**	.373**	.307**	.383**	.282**	.280**	.403**		.168*					-.252**			-.170*
8	.388**	.417**	.234**	.272**	.316**	.188*	.326**		.403**				-.205**		-.320**			
7	.314**	.347**	.226**	.190*	.391**	.261**		.326**	.280**									
6	.166*	.220**	.421**	.532**	.307**		.261**	.188*	.282**									
5	.208**	.253**	.254**	.212**		.307**	.391**	.316**	.383**									-.173*
4	.229**	.302**	.471**		.212**	.532**	.190*	.272**	.307**									
3	.297**	.336**		.471**	.254**	.421**	.226**	.234**	.373**						-.205**			
2	.786**		.336**	.302**	.253**	.220**	.347**	.417**	.312**				-.190*	-.166*	-.341		-.166*	-.238**
1		.786**	.297**	.229**	.208**	.166*	.314**	.388**	.229**						-.272**	-.210**		-.250**
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

There showed to be a correlation (.786) at the .01 confidence level between the variable “Alcohol use in the United States, and more specifically Texas, is a problem that requires the attention of law enforcement” and the variable “Alcohol use in Tarrant County is a problem that requires the attention of law enforcement.” In the relationship between these two variables, those that think that alcohol use in the United States, and more specifically Texas, is a problem that requires the attention of law enforcement also agreed that alcohol use in Tarrant County is a problem that requires the attention of law enforcement.

There is a correlation (.417) at the .01 confidence level between the variable “Alcohol use in Tarrant County is a problem that requires the attention of law enforcement” and the variable “Alcohol use is a social problem that harms all members of society.” In comparing the relationship between these variables, those that tended to agree that alcohol use in Tarrant County is a problem that requires the attention of law enforcement also agreed that alcohol use is a social problem that harms all members of society.

There is a correlation (.471) at the .01 confidence level between the variable “Alcohol is more closely related to violent crime than any other illicit drug including methamphetamines, cocaine, and marijuana” and the variable “Alcohol is the primary cause of property crimes that occur in the City of Arlington.” In comparing the relationship between these variables, those that agreed that alcohol is more closely related to violent crime than any other illicit drug including methamphetamines,

cocaine, and marijuana disagreed that alcohol is the primary cause of property crimes that occur in the City of Arlington.

There is a correlation (.421) at the .01 confidence level between the variable “Alcohol is more closely related to violent crime than any other illicit drug including methamphetamines, cocaine, and marijuana” and the variable “Murder is typically associated with alcohol.” In comparing the relationship between these variables, those that disagreed that alcohol is more closely related to violent crime than any other illicit drug including methamphetamines, cocaine, and marijuana, also disagreed that murder is typically associated with alcohol.

There is a correlation (.532) at the .01 confidence level between the variable “Alcohol is the primary cause of property crimes that occur in the City of Arlington” and the variable “Murder is typically associated with alcohol.” With these two variables, the relationship indicates that those who agreed with the statement that alcohol is the primary cause of property crimes that occur in the City of Arlington, disagreed that murder is typically associated with alcohol.

There is a correlation (.403) at the .01 confidence level between the variable “Alcohol use is a social problem that harms all members of society” and the variable “Individuals who consume alcohol on a regular basis, stay home from work on a regular basis due to illness.” The relationship between these two variables indicates that those respondents who agreed with the statement that alcohol use is a social problem that harms all members of society disagreed with the statement that individuals who

consume alcohol on a regular basis, stay home from work on a regular basis due to illness.

There is a correlation (.532) at the .01 confidence level between the variable “There is no problem with drinking alcohol and driving myself home as long as I am not ‘buzzed’” and the variable “I routinely drive myself home from social functions even though I feel slightly ‘buzzed.’” With these two variables, the relationship indicates that those who disagreed with the statement that there is no problem with drinking alcohol and driving myself home from social functions even though I feel slightly “buzzed” also disagreed that they routinely drive themselves home from social functions even though they felt slightly “buzzed.”

There is a correlation (.405) at the .01 confidence level are “Police Officers are not able to accurately gauge if a person is intoxicated through Field Sobriety Tests” and “Addressing issues related to drinking and driving is a waste of time and tax dollars.” Upon comparing these two variables, the relationship indicates that those who disagreed that police officers are not able to accurately gauge if a person is intoxicated through Field Sobriety Tests also disagreed that addressing issues related to drinking and driving is a waste of time and tax dollars.

In chapter five, the author provides conclusion to this study with a discussion of the conclusions and inferences that can be made in relation to the data interpretations presented above. Policy implications, limitations, and suggestions for future research are also discussed as the implications of the findings contained within this study contribute to the body of knowledge and practice within the realm of social policy.

CHAPTER FIVE

DISCUSSION / CONCLUSION

The purpose of this study is to examine undergraduate students' perceptions of harmful alcohol consumption as a social problem and specifically its relationship with crime. To accomplish this task, the researcher compiled a review of relevant literature which aided in the creation of a survey that was administered in selected undergraduate Criminology and Criminal Justice (CRCJ) classes on the campus of the University of Texas at Arlington. Chapter two of this study served to provide a synthesis of related literature as there is a plethora of research addressing issues such as alcoholism, alcohol consumption, alcohol's relationship to violent crime and aggression, and the overall social costs of alcohol consumption.

The findings suggest to this author that the academic performance thus far has not focused on undergraduate students' perceptions of harmful alcohol consumption as a social problem and specifically, alcohol's relationship with crime. Therefore, in chapter three, the author outlined the methodology of this study, which included explanations about the sample selected for the study, the survey instrument, the implementation of the survey instrument, and the analysis procedures performed with the data that were collected. In chapter four, the author discussed the findings of the study as there were three statistical manipulations performed with the data.

In this chapter, the author will discuss this study's limitations, the results of the study as they relate to undergraduate students' perceptions of harmful alcohol consumption and its relationship with crime, the implications of the study in relation to social policy, the contributions of the study to the body of knowledge, and suggestions for future research.

5.1 Limitations of the Study

The first limitation to this study is the sample itself. Because random sampling was not feasible, the respondents in this study were selected purely on the convenience and availability of the researcher. While random sampling is the preferred method of choosing subjects for this type of study, one can conclude that the results of this research is valid as it satisfies the intent of the study by measuring undergraduate students' perceptions of alcohol consumption as a social cost specifically as it relates to crime.

During the administration of the survey in undergraduate CRCJ courses at the University of Texas at Arlington, there are two notable interactions that the researcher experienced with the subjects. First, while turning in a completed survey, a white male respondent asked the researcher, "So, would a 'shot' count as a drink?" For the purposes of this survey, there were no definitions provided to the respondents. This fact, in and of itself, is a limitation within the survey instrument as differing cultures, ethnic backgrounds, and worldviews may infer differing meanings on the words used in this study to measure the perceptions of harmful alcohol consumption. To compensate for cultural differences as described above, the researcher used race as a controlling

variable when seeking to determine if there were significant differences among the items that were presented to respondents.

A second interaction that occurred included a discussion initiated by a white female respondent. After all completed surveys had been passed to the researcher, she asked, “Do you really expect people to admit that they have a drinking problem?” This question spurred a brief discussion about respondents honestly completing surveys for researchers even after confidentiality is explained and guaranteed as a part of the research. Interestingly, this discussion occurred in a statistical analysis course and highlights a limitation of this study as to respondents honestly answering the items as they were presented to them within the survey instrument. It should also be noted that there are no questions on the survey asking if the respondents feel as if they have or have had a drinking problem. The next section will focus on the results of the survey that have been outlined in detail within Chapter four.

5.2 Perceptions of Undergraduate Students

The analysis of the data revealed that there were ten significant differences when controlling for consumption of alcohol beverages in the presence of the respondents by family members as they were growing up (family consumption versus no family consumption) compared to six significant differences when controlling for race (white versus non-white). Undergraduate students tend to agree that alcohol use in Tarrant County is a problem that requires the attention of law enforcement and there is a significant difference when controlling for family consumption and no significant difference when controlling for race.

Significant differences existed while controlling for family consumption and race as respondents agreed that alcohol is more closely related to violent crime than any other illicit drug including methamphetamines, cocaine, and marijuana. Interestingly, while respondents agreed, there are no significant differences among respondents when asked if alcohol use tends to result in aggressive behavior based on their experience.

Similarly, respondents disagreed that murder is typically associated with alcohol and race or family consumption made no difference in the respondents' perceptions therein. Respondents agreed that family violence is typically associated with alcohol and race nor family consumption made a difference in their responses.

Overall, undergraduate students tend to agree that alcohol use is a social problem that harms all members of society and there is a significant difference between responses as race and family consumption have an influence in the responses of participants.

When asked if individuals who consume alcohol on a regular basis, stay home from work on a regular basis due to illness, respondents tended to agree. Results indicate that both race and family consumption have an influence in respondents' perception in this case. When asked if they regularly call in sick to work after drinking heavily the night prior to their work day, both race and family consumption have an influence in the respondents' disagreement with this statement as both variables yielded significant differences.

Respondents agreed that drinking alcohol at social functions is a norm in their community. While race did not yield significant differences, family consumption is an

influence in the respondents' perception that drinking alcohol at social functions is a norm in their community.

When asked if there is a problem with drinking alcohol and driving themselves home as long as they are not "buzzed," family consumption yielded significant differences and influences respondents' perception while race did not yield significant differences. Similarly, while respondents tended to disagree with the statement that they routinely drive themselves home from social functions even though they feel slightly "buzzed," results indicate that race is an influencing factor while family consumption is not.

Respondents are inclined to disagree that it is okay for minors (under 21) to consume alcoholic beverages as long as they are not driving. For this variable, both race and family consumption influenced respondents' perceptions of alcohol consumption by minors.

When asked if police officers are able to gauge if a person is intoxicated through field sobriety testing, respondents lean toward agreement. However, neither race nor family consumption appears to influence the respondent's perceptions. In the same way, neither race nor family consumption appear to influence respondents agreement that there are usually more drunk drivers on the freeways than police officers can stop and arrest on a given day.

According to the results detailed within this study, it appears that race and family consumption play a factor in the perceptions of alcohol consumption as a social problem and more specifically crime.

5.3 Strength of Relationships

When testing for strength of relationships among variables using the Pearson's r correlation coefficient, several correlations exist among variables. Because there were so many, the researcher focused on the strongest relationships. Consequently, there is a relationship that exists among the variable "Alcohol use in the United States, and more specifically Texas, is a problem that requires the attention of law enforcement" and the variable "Alcohol use in Tarrant County is a problem that requires the attention of law enforcement."

There is a relationship that exists between "Alcohol is more closely related to violent crime than any other illicit drug including methamphetamines, cocaine, and marijuana" and "Alcohol is the primary cause of property crimes that occur within the City of Arlington." This relationship is consistent with the literature that has been reviewed for this study in that research indicates that alcohol is more closely related to acts of aggression than instances of property crimes (Exum, 2006).

While respondents were inclined to disagree that alcohol consumption is typically associated with murder, they agreed that alcohol is more closely related to violent crime than any other illicit drug including methamphetamines, cocaine, and marijuana. Results indicate that a relationship between these two variables exists. Similarly, a relationship exists between the variables that measured alcohol's relationship with property crimes and alcohol's relationship with murder, meaning that those were inclined to disagree with one, also disagreed with the other.

When measuring social costs due to illness-related absenteeism and lost productivity (morbidity), a relationship between the variables “Individuals who consume alcohol on a regular basis, stay home from work on a regular basis due to illness” and “Individuals who consume alcohol on a regular basis, stay home from work on a regular basis due to illness” exists where those who were inclined to agree that alcohol use is a social problem disagreed that there is a loss in productivity due to harmful alcohol consumption. On the contrary, evidence suggests that individuals with alcohol dependence and alcohol abuse have higher rates of illness-related absences from work than other employees (Klingemann & Gmel, 2001). Globally, alcohol is the primary cause for approximately 10 percent to 20 percent of work accidents and trauma in France as reported by the World Health Organization (2004).

A relationship exists between the variables that sought to ascertain if respondents felt that there is no problem with drinking alcohol and driving themselves home as long as they are not “buzzed” and the variable that sought to determine if respondents routinely drove themselves home even though they feel slightly “buzzed.” Respondents were inclined to disagree with both statements; however, there are significant limitations with this comparison as the word “buzzed” is left to the respondent to interpret absent providing definitions on the survey. This is important as traffic safety facts previously presented indicate an increasing number of alcohol-related fatality crashes in the State of Texas thus, creating a need for further research and education in the area of impaired driving.

Overall, respondents who were inclined to agree that police officers are able to accurately gauge if a person is intoxicated through field sobriety tests would also agree that addressing issues related to drinking and driving is not a waste of time and tax dollars. The relationship between these variables reinforces the importance of reinvigorated efforts to combat the social problems caused by harmful alcohol consumption as listed in the policy implications discussed in the next section.

5.4 Policy Implications

There are three specific policy implications that have surfaced as a result of this study. These include lowering the legal *per se* intoxication limit for driving while impaired from .08 to .05, considering the implementation of sobriety checkpoints in the State of Texas, and specific law enforcement countermeasures that are proven effective in combating the social problem of harmful alcohol consumption.

First, there is considerable research that supports lowering the impaired driving illegal *per se* intoxication limit from .08 to .05. Fell and Voas (2006) cite considerable evidence supporting this proposal including experimental and laboratory research on the impairment effects at a .05 blood-alcohol content (BAC). Many of the studies reviewed showed statistically significant impairment in driving performance at a BAC of .05 or lower. Other researchers concluded that by the time subjects reach a .05 BAC, they are significantly impaired and the majority of the driving population is impaired in at least some important measures at BACs as low as .02 BAC (Fell & Voas, 2006). While the research seems to indicate that lower *per se* intoxication limits for impaired driving offenses would be logical, lowering these limits from .10 to .08 required the United

States Congress threaten sanctions that would withhold a portion of a state's highway construction funds for states that failed to adopt .08 laws by October 1, 2003 (Fell & Voas, 2006).

The second significant policy implication concerns the implementation of sobriety check points within the State of Texas. According to Alpert (2005), roadblock stops established to identify intoxicated drivers are not "inherently unreasonable." In fact, courts have indicated that there must be a balance of public interest in road blocks against the driver's right to privacy. Furthermore, the courts have outlined three factors to consider in reference to the balance of public interest. These factors include the state's interest in preventing crashes caused by drunk drivers, the effectiveness of a DWI roadblock in preventing these crashes, and the level of intrusion on an individual's right to privacy that is caused by the roadblock (Alpert, 2005).

As mentioned in the review of relevant literature, Texas does not currently have legislative approval or statewide authorization to facilitate the constitutional requirements of sobriety checkpoints as required through an opinion rendered by the United States Supreme Court. In 2000, the United States Supreme Court has reaffirmed its position as long as there is legislative approval by the states as justified by public interest; sobriety checkpoints will pass constitutional muster as they "can dispense with the requirement for individualized suspicion" (Alpert, 2005). While Texas continues to have one of the highest rates of fatality crashes in the United States (National Center for Statistics and Analysis, 2007), it seems that proposed legislation for sobriety checkpoints never makes it out of state senate or house committees.

The third and final policy implication includes consideration by municipalities to form and operate dedicated resources to combat the social problem associated with harmful alcohol consumption. “The effectiveness of any law is highly dependent on the extent to which it is enforced and the intensity and publicity surrounding that enforcement” (Fell & Voas, 2006). As the research indicated, there are significant correlations between alcohol and instances of violent crime. In fact, one researcher suggests that alcohol is more closely related to acts of violence than any other illicit drug combined (Exum, 2006). These dedicated resources could include driving while intoxicated enforcement units that will focus on impaired driving and other miscellaneous alcohol-related offenses including underage drinking. Examples of the dedicated resources whose mission is to address the social problem associated with harmful alcohol consumption are the units formed by the Arlington, Texas Police Department in December 2007 and the Austin, Texas Police Department in 1999.

Because of the strong correlation between alcohol and violent acts as reported by valid research, one might argue that addressing offenses related to alcohol may have an impact on violent acts such as murder, rape, family violence, assault, fights, and any other offense that involves acts of violence. Obviously, there is a strong need for initiatives that will combat the increasing problem of alcohol-related fatality crashes as this continues to be the leading cause of negligent deaths in the United States, within the State of Texas, and more specifically the City of Arlington.

5.5 Contribution to the Body of Knowledge

The literature reviewed for this study indicates that a plethora of research have been conducted on the topics of alcohol, alcoholism, alcohol and crime, and the social costs of alcohol consumption as a whole. However, this research is a significant contribution to the body of knowledge in that this researcher was not able to locate any existing studies that measured undergraduate students' (within the North Texas region) perceptions of harmful alcohol consumption as a social problem and its relationship with crime. The researcher is not suggesting the reinstatement of prohibition in this country or inferring that alcohol consumption is illegal, immoral, or unethical. Nevertheless, the results of this study show that there are far reaching implications to harmful alcohol consumption that are not being addressed on a day to day basis as evidenced merely by the increasingly high rates of alcohol-related deaths as previously outlined.

Therefore, this study is a solid contribution to the body of knowledge in that it provides strong foundations for future research, it reinvigorates discussions related to harmful alcohol consumption as a social problem, and it provides solid implications concerning social policy. Through surveying the perceptions of undergraduate students, the author has identified additional realms related to this study that will be outlined as suggestions for further research and examination.

5.6 Suggestions for Future Research

Future research might examine the specific social costs of harmful alcohol consumption for the City of Arlington as a whole. This would be ground-breaking

precedence for municipalities as they seek to combat the issues related to harmful alcohol consumption. Examples of investigation within this framework might include an analysis of the expenditures related to acts of violence (murder, family violence, and vehicular assaults), fatality crashes related to alcohol, and health and vehicle insurance premium increases for expenditures. Researchers should seek to determine if there is a correlation between homicide and alcohol-related fatality crash rates. Furthermore, they might use regression analysis to determine if predictors exist for combating acts of violence as outlined in the synthesis of related literature for the current study.

Additionally, with the social problems outlined within this study, the researcher sought to measure the perceptions of undergraduate students so that the findings might be applied to the population of the City of Arlington through creating a need for further analysis. Alcohol use is a social norm for many social settings, thus, there is a need for education on alcohol's effect on the human body and brain. One can argue that by influencing the perceptions of harmful alcohol consumption with the population as a whole, citizens might be able to assist law enforcement officials in reducing the overall cost of alcohol consumption that is most readily measured through the nation's leading cause of negligent deaths – alcohol-related fatality crashes; and have an impact on instances of violence before they are realized.

APPENDIX A

SURVEY INSTRUMENT

SURVEY

The purpose of this study is to outline the social costs of alcohol use in the United States of America, the State of Texas, and the City of Arlington, Texas and includes an analysis of the overall perceptions of alcohol use and misuse. Your participation in this survey is **purely voluntary. You may choose not to not to participate in the survey without consequence.** While you are requested to answer every question, you are not required to do so. Confidentiality is strictly honored and there are no questions on this survey that will enable the researchers to directly identify you. Please do not write your name or any identifying marks on the survey. If you have any questions or concerns, please contact Dr. Alex del Carmen, Department of Criminology and Criminal Justice, University of Texas at Arlington at (817)272-3318. Your participation is greatly appreciated!!!

Please leave this section blank! Begin the survey on Page 2!

Circle only one number that best describes your agreement or disagreement with the following statements.

1. Alcohol use in the United States, and more specifically Texas, is a problem that requires the attention of law enforcement.

Agree Strongly

1

2

3

4

5

Disagree Strongly

2. Alcohol use in Tarrant County is a problem that requires the attention of law enforcement.

Agree Strongly

1

2

3

4

5

Disagree Strongly

3. Alcohol is more closely related to violent crime than any other illicit drug including methamphetamines, cocaine, and marijuana.

Agree Strongly

1

2

3

4

5

Disagree Strongly

4. Alcohol is the primary cause of property crimes that occur in the City of Arlington.

Agree Strongly

1

2

3

4

5

Disagree Strongly

5. In my experience, alcohol use tends to result in aggressive behavior.

Agree Strongly

1

2

3

4

5

Disagree Strongly

6. Murder is typically associated with alcohol.

Agree Strongly

1

2

3

4

5

Disagree Strongly

7. Family Violence is typically associated with alcohol.

Agree Strongly

1

2

3

4

5

Disagree Strongly

8. Alcohol use is a social problem that harms all members of society.

Agree Strongly

1

2

3

Disagree Strongly

4

5

9. Individuals who consume alcohol on a regular basis, stay home from work on a regular basis due to illness.

Agree Strongly

1

2

3

Disagree Strongly

4

5

10. I regularly call in sick to work after drinking heavily the night prior to my work day.

Agree Strongly

1

2

3

Disagree Strongly

4

5

11. Drinking alcohol at social functions is a norm in my community.

Agree Strongly

1

2

3

Disagree Strongly

4

5

12. There is no problem with drinking alcohol and driving myself home as long as I am not "buzzed."

Agree Strongly

1

2

3

Disagree Strongly

4

5

13. I routinely drive myself home from social functions even though I feel slightly "buzzed."

Agree Strongly

1

2

3

Disagree Strongly

4

5

14. I believe it is okay for minors (under 21) to consume alcohol as long as they are not driving.

Agree Strongly

1

2

3

Disagree Strongly

4

5

15. It is normal for those under 21 to drink at parties.

Agree Strongly

1

2

3

4

5

Disagree Strongly

16. Police Officers are not able to accurately gauge if a person is intoxicated through Field Sobriety Tests.

Agree Strongly

1

2

3

4

5

Disagree Strongly

17. Addressing issues related to drinking and driving is a waste of time and tax dollars.

Agree Strongly

1

2

3

4

5

Disagree Strongly

18. There are usually more drunk drivers on the freeways that police officers can stop and arrest on a given day.

Agree Strongly

1

2

3

4

5

Disagree Strongly

Demographics

19. On average, how many alcoholic beverages do you consume over a week's time?
(circle only one)

0-2

3-4

5-6

more than 6

20. On average, how many days a week do you consume alcoholic beverages
(circle only one)?

0

1

2

3

4

5

6

7

21. Did you drink alcoholic beverages regularly in high school?
(circle one)

1. **Yes**

2. **No**

22. Did you / do you drink alcoholic beverages regularly in college?
(circle one)

1. **Yes**

2. **No**

23. Did your family regularly consume alcoholic beverages in your presence as you were growing up? **(circle one)**

1. **Yes** 2. **No**

24. Gender: **(circle one)**

1. **Male** 2. **Female**

25. Age: **(circle one)**

- 18-25** **26-30** **31-40** **41-55** **56-65** **Over 65**

26. Race/Ethnicity: **(circle one)**

1. **White** 2. **Black/African American** 3. **Hispanic/Latino** 4. **Asian**
5. **Other**

27. Marital Status: **(circle one)**

1. **Single (never married)**
2. **Married**
3. **Divorced**
4. **Separated**

28. Gross Income: **(circle one)**

- \$ 0 - \$20,000**
\$20,001 - \$40,000
\$40,001 - \$65,000
\$65,001 - \$90,000
\$90,001 - \$100,000
\$100,001 and up

29. Registered Voter: **(circle one)**

1. **Yes**
2. **No**

30. Employment: **(circle one)**

1. **Full-time**
2. **Part-time**
3. **Unemployed**
4. **Looking for Work**

31. Education: **(circle one)**

1. **High School Graduate / GED**
2. **Some College**
3. **Bachelor's Degree**
4. **Master's Degree**

32. Have you ever sought assistance or education related to alcohol use? **(circle one)**

1. **Yes**
2. **No**

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BIOGRAPHICAL INFORMATION

Michael “Chad” Gann was born on August 28, 1975 in Cleburne, Texas. He grew up in Grandview, Texas and surrounding areas within Johnson County. Upon graduation from Grandview High School in 1993, Mr. Gann attended Howard Payne University where he earned a Bachelor of Music degree. In August 2000, Mr. Gann accepted a position as a police officer with the City of Arlington, Texas. In August 2004, Mr. Gann was promoted to the rank of Sergeant. His assignments include various patrol assignments, focused impaired driving enforcement, Traffic Investigations, and an assignment in the Office of the Police Chief where he currently serves as Policy Analyst and Accreditation Manager. In 2006, Mr. Gann successfully proposed the creation of a dedicated Driving While Intoxicated Enforcement Unit for the Arlington Police Department that began operations in December 2007. Mr. Gann earned a Master of Arts degree in Marriage and Family Counseling from Southwestern Baptist Theological Seminary, Fort Worth, Texas in May 2006 and a Master of Arts degree in Criminology and Criminal Justice from the University of Texas at Arlington in May 2008. Mr. Gann holds a Paramedic License through the Texas Department of State Health Services, a Master Peace Officer License in the State of Texas, and has attended various law enforcement leadership programs including the 89th School of Police Supervision conducted by the Institute for Law Enforcement Administration, a division of the Center for American and International Law.