THE EFFECTS OF INCARCERATION ON BEHAVIOR PATTERNS

OF DUI SECOND OFFENDERS USING TFA SYSTEMS (TM)

by

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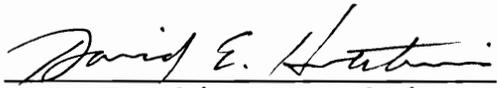
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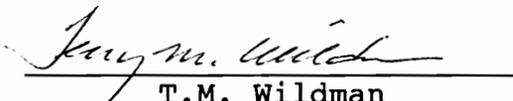
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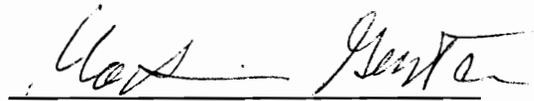
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(ABSTRACT)

The purpose of this study was to determine the effects of incarceration on behavior patterns on DUI second offenders. This study assessed the thoughts, feelings, and actions of adult, male DUI second offenders at four points. Specifically, behavior patterns were assessed at the time the individual made a decision to engage in drinking which led to their second DUI arrest, at two points during their incarceration for this offense, and thirty days after their parole from jail.

A review of the extant literature provided insight into the factors influencing DUI recidivism. An interview protocol was developed from the literature analysis. Data were collected by interview and by extraction of relevant information from confidential court records.

The TFA Clinical Interview was contained in the interview protocol and provided qualitative and quantitative data relevant to each participant's decision about engaging in drinking at specific times. The Hutchins Behavior Inventory (HBI) was used at two intervals, in conjunction with the TFA Clinical Interview, as an objective quantitative assessment of

behavior relevant to the same drinking decision. The quantitative and qualitative assessment of thoughts, feelings, and actions contributed to the overall conclusion that incarceration had no effect on behavior pattern change for these DUI second offenders.

The results of this study suggest the DUI second offender planned their drinking events, failed to consider the consequences of drinking and driving behavior, and perceived a low probability of detection of driving under the influence. Feelings relevant to the drinking episode were positive based on anticipation of favorable social interaction. Actions were limited to work and those activities which involved drinking.

TFA System (tm) provided a method to evaluate thoughts, feelings, and actions relevant to decisions about engaging in drinking behavior. Such a method of assessment showed promise as a valuable tool to be used in the development of effective intervention strategies for DUI recidivists.

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CHAPTER ONE

Introduction

Drunk driving is one of the most serious health, legal, and social concerns of the nation today. Fatalities and serious injuries resulting from crashes involving a drunk driver are a persistent problem. In 1986, 40 percent of fatally injured drivers in the United States were legally intoxicated and it is estimated that between 15 and 20 percent of all drivers involved in injurious accidents have been drinking heavily (Insurance Institute for Highway Safety [IIHS], 1987). For more than two decades, we have searched for ways of preventing intoxicated people from driving; and preventing identified drunk drivers from repeating their offense (Siegal, 1985).

Since 1970, two major approaches have been initiated to address the problem of drunk driving. The first, sponsored by the National Highway Safety Administration, supported the development of a series of Alcohol Safety Action Projects (ASAP) which focused on primary prevention. These projects attempted to affect attitudinal change about drunk driving through public education and through enacting and enforcing laws which make the consequences of drunk driving so painful that people are dissuaded from doing it.

The second approach, initiated in the early 1980s after the ASAP'S ended, was prompted by citizens' groups demanding

that more action be taken to rid the highways of drunk drivers. Groups such as MADD (Mothers Against Drunk Drivers), SADD (Students Against Drunk Drivers), and RID (Remove Intoxicated Drivers) were influential in encouraging the Federal Government to become more attentive to this problem. The primary feature of this period has been the revision of state laws with stiffened penalties for driving under the influence (DUI). These penalties normally include incarceration and suspension of the operator's license.

Countermeasures adopted at the state level have resulted in some reduction of drunk driving behavior. The effect of these countermeasures on influencing drunk driving behavior in the long run has not been demonstrated. Most studies have focused on individuals involved in accidents, rare events for the drunk driver when considering the total number of drinking and driving events.

Variables such as gender, age, socioeconomic level, marital status, education level, time of day, day of week, previous arrest record, and blood alcohol concentration at the time of arrest have been identified by researchers as key data elements for understanding drunk driving behavior (Sweeney, Garvey, and Mason, 1988). To date, these descriptive variables, or other extensive lists of variables, have not produced predictive indicators of DUI repeat offenders. There is general agreement however, that drinking drivers are not a

homogeneous group and that, therefore, no one strategy can reduce drinking and driving in the general population (Bradstock, Marks, Forman, Gentry, Hogelin, Binkin, and Trowbridge, 1987). Studies have focused on the biological, sociological, economic, and educational characteristics inherent of the DUI offender but have not explored the behavior of the individual prior to engaging in drinking activity.

Armed with the knowledge of consequences for a subsequent conviction for drunk driving, the legal system has provided the incentive for the first offender to resist situations which include drinking and motor vehicle operation. This action study involved an evaluation of second offender drunk drivers aimed at determining behavior which resulted in their second DUI arrest and, subsequently, determining the impact of incarceration on behavior patterns.

Background

The conceptual framework of this study was anchored in the perspective of driving under the influence as a major social problem facing all subcultures of the population. Efforts to address this problem through increased exposure has resulted in the rapidly evaporating toleration of drunk driving and an increasing frustration with the traditional methods of drunk driver rehabilitation (Siegal, 1985). With

an increasing appreciation of the seriousness of the DUI problem, along with the public's directive to treat drunk driving as a crime and punish violators, there has been a search for alternatives to incarceration.

A second anchor in this study was the identification of alcoholism as a progressive disease characterized by an increased tolerance for alcohol, compulsive use, and continued use in spite of negative consequences. Studies undertaken to identify alcoholics as a significant subset of individuals arrested for DUI based on blood alcohol concentration (BAC) levels and driving records have resulted in contradictions (Voas, 1985; Vingilis, 1983; and Zylman, 1974). In an effort to standardize terminology, the Diagnostic Statistical Manual of Mental Disorders - Third Edition, Revised (1987) lists nine criteria of which confirmation of any three supports a diagnosis of alcoholism. Proper assessment of drunk drivers provides insight into the development of effective DUI countermeasures.

A third anchor of this study focused on the concept that behavior could be defined as the interaction of an individual's thoughts (T), feelings (F), and actions (A). The TFA model, developed by Hutchins (1979), defined behavior as the interaction of thoughts, feelings, and actions relative to a specific situation. The Hutchins Behavior Inventory introduced in 1984, combined with a structured TFA Clinical

Interview, provided a means to measure the interaction of these three domains on a quantitative and qualitative level. Computer assisted scoring provided insight into quantity and characteristic occurrence of these variables represented on a TFA model. For this study the distinguishing characteristic of the TFA framework was the suggestion that an individual's decision to drink and drive was based on the specific interaction of thoughts, feelings, and actions. Perceiving behavior in this manner may provide insight into effective intervention strategies applicable to specific behavior rather than placing all repeat offenders at some point along the continuum of alcoholism and instituting traditional treatment methods.

Assumptions

There were four assumptions that provided a starting point for this study. First, it was assumed that drinking drivers choose to engage in risk taking behavior without regard to consequences of their behavior. This concept of choice has been studied from several perspectives. Rosenberg, Brian, and Allf (1985) found sufficient evidence to conclude that many individuals who engage in driving under the influence of alcohol correctly perceive a variety of important facts about alcohol consumption and its impact on judgment.

Thurman (1986) suggested that priori reflection and reasoning regarding the probability of getting caught for

drunk driving influenced risk taking behavior. In situations where the perceived probability of arrest was high, drinking and driving behavior changed. Factors such as embarrassment, loss of respect from friends, and feelings of guilt were cited as negative consequences of drunk driving. Decreased driving ability or diminished judgment skills were not considered as contributing factors in the decision making process.

Donovan, Marlatt, and Salzberg (1983) found that driving related attitudes might best be considered as affectively laden cognitive sets or tendencies to behave in a relatively consistent manner toward some object or situation in the environment. This study suggested that driving behavior satisfied various psychological needs such as reduction of stress, increase in perception of personal efficacy, status, and power, increase in personal confidence, increase in sensation-seeking behavior, and a means of expressing chronic anger and resentment. The authors also suggested that drinking alcohol enhanced risk-taking driving behavior by diminishing the individuals' physical ability to respond to dangerous driving situations.

In a recent telephone poll of 9,028 people conducted by the Gallup Organization for Mothers Against Drunk Drivers, respondents listed injury to others, injury to self, jail sentence, loss of license, and substantial fines as major deterrents to drinking and driving (Shorn, 1991). Regardless

of perceived risks, slightly over eight percent of those polled reported driving under the influence, or close to it, in the past three months.

A second assumption in this study was that the TFA Systems (tm) accurately assessed the quantity and characteristic aspects of thoughts, feelings, and actions, specifically thoughts, feelings, and actions associated with drinking and driving. The basis for this assumption was anchored in the results of several studies conducted during the last five years which provided insight into the applicability of TFA Systems (tm) to various populations.

Clow (1989) applied the TFA model to the development of a treatment scheme for male spouse abusers. This study added to the body of knowledge about the TFA model with regard to situational specificity of behavior and pre and post treatment assessments of behavior characteristics.

Tieman (1991) studied the application of TFA Systems (tm) to female incest survivors. Using both the TFA self assessment and the Hutchins Behavior Inventory, both quantitative and qualitative aspects of behavior were compared in a pretest, posttest format. This study further strengthened the correlation between TFA profiles obtained by formal interview and those generated by the HBI.

Bundy (1991) used the TFA clinical interview to study the thoughts, feelings, and actions of pregnant teenagers at

specific points of decision. The subjects were asked to recall their thoughts, feelings, and actions at the time of intercourse resulting in pregnancy, at the time their pregnancy was confirmed, and six weeks postpartum. This study found that even after several months had elapsed, events could be recalled by individuals with sufficient lucidity to enable analysis of behavior patterns.

The third assumption used in this study was that the Diagnostic and Statistical Manual of Mental Disorders - Third Edition, Revised (1987) provided accurate criteria to determine a diagnosis of alcohol abuse or alcoholism. Miller and Windle (1990) have provided a review of various assessment instruments used in the diagnosis of drinking problems. They found the DSM-III-R to be one of the more comprehensive assessments that could be utilized by clinicians for the purpose of assessing the seriousness of alcohol problems.

The Seventh Special Report to the U.S. Congress on Alcohol and Health (1990) also cited the adequacy of DSM-III-R criteria in diagnosing alcohol problems. The World Health Organization's International Classification of Diseases (ICD-9) and the DSM-III-R reflect a general evolution toward detailed evaluation of alcohol use disorder by means of multiple criteria.

The fourth assumption used in this study was that participants would have adequate recall of events prior to

engaging in drinking behavior which resulted in their second DUI arrest. The researcher understood at the beginning of this study that memory decay would inhibit perfect recall of the events leading to each participants' arrest for a second DUI offense. Therefore, several structural components were included in the interview format to enhance recall potential. Each of these elements is discussed in detail in Chapter Five.

Three additional factors need to be considered with regard to accuracy of collected data. First, all interviews were conducted with the guarantee of anonymity. Participants were informed of state and federal confidentiality statutes prior to signing the participant agreement. Second, participants were interviewed after being sentenced for their second DUI offense. Due to the protection against double jeopardy, there would have been limited motivation to purposefully misconstrue information about this particular offense. Third, the researcher had extensive training and experience in interviewing techniques especially with regard to the alcohol abusing population and the DUI event.

Problem Statement

Since 1983, the Commonwealth of Pennsylvania has taken an aggressive position with regard to individuals arrested for second drunk driving offenses. The intervention measures include loss of driving privileges for one year, a one-to-twenty-four month jail sentence, fines and court costs ranging

from $1000 to $1500, and required participation in some form of alcohol treatment program. The results of this aggressive program are mixed.

The impact of drunk driving is well documented in annual reports of motor vehicle fatalities and injuries. The mandatory requirement for incarceration of second offense drunk drivers has been a factor in the overcrowding of prisons leading to the need for construction of larger facilities funded by tax dollars. Studies suggest that incarceration alone has little impact on an individual's motivation to change behavior patterns (Sweeney et al., 1988).

Most studies conducted on DUI offenders have explored characteristics of first offenders or have studied multiple offenders as a group. Additionally, most studies have focused on the male offender and have attempted to distinguish which members of this population are alcoholic opposed to problem drinkers. The rationale for such studiesis the assumption that alcoholics will represent a largerpercentage of the population which is incarcerated for multiple DUI offenses or involved in traffic fatalities in which alcohol consumption was considered to be a contributing factor. The argument for such an assumption has not been proven yet treatment strategies implemented for DUI multiple offenders focus on individuals identifying themselves as an alcoholic.

The procedural problem was to analyze patterns of behavior of DUI second offenders using the HBI and TFA Clinical Interview. This analysis examined the thoughts, feelings, and actions of convicted second offenders at four different times. The first evaluation focused attention on the events in the eight hours prior to the individual's decision to engage in drinking behavior which resulted in the arrest for a second DUI offense. The second and third assessments occurred during the individuals' mandatory thirty-day incarceration between days six and nine and between days twenty and twenty-three. The final evaluation focused attention on the thoughts, feelings, and actions of the second offender thirty days after parole with regard to decisions about engaging in drinking.

Purpose

The overall purpose of this study was to determine the effect of incarceration on behavior patterns of DUI second offenders. In order for this to be accomplished, the researcher:

1. Synthesized the extant literature on incarcerated adult DUI second offenders.

2. Identified the characteristics of the adult DUI second offender.

3. Identified the TFA patterns of incarcerated DUI second offenders.

4. Assessed the impact of incarceration on DUI second offenders using TFA patterns.

Research Questions and Hypotheses

The following four questions were answered upon completion of this study. The first two questions were answered in the review of literature. The last two questions were answered from an analysis of data collected from each of the offenders by the researcher using a formal interview guide, which included the TFA Clinical Interview, and the Hutchins Behavior Inventory (HBI).

1. What is the current status of research available on incarceration of adult DUI repeat offenders?

A. What is a DUI offense?

B. What is an impaired driver?

C. How does incarceration impact drunk driving behavior?

D. What instruments are available to measure impact of incarceration on the behavior of DUI second offenders?

2. What are the characteristics of the adult DUI second offender?

A. What effect does age, gender, education, socioeconomic, and marital status have on DUI second offenders?

B. What is the relationship between the two

arrests and blood alcohol concentration, time of day arrested, day of week arrested, and previous driving record?

C. What is the relationship between the intervening arrest dates and termination of probation from the first DUI offense?

D. What is the relationship between alcoholism and second offense DUI?

E. Who gets arrested for second offense DUI?

3. There is no difference in behavior patterns of study DUI second offenders' thoughts, feelings, and actions at the time they decided to engage in drinking behavior leading to their second DUI arrest, at selected periods during their incarceration, and at a time thirty days after their parole from jail.

A. What were the thoughts, feelings, and actions of the study individuals determined by TFA Clinical Interview at time periods of eight hours, four hours, and one hour before their decision was made to engage in drinking behavior which ultimately led to a second DUI arrest? Such information provided insight into the context of thoughts, feelings, and actions at the various time intervals as well as stimulated recall of events which enhanced the reliability of the TFA triad obtained at the time the individual made the decision to engage in drinking.

B. What was the TFA triad of the study individual

determined by the HBI and TFA Clinical Interview when the decision was made to engage in drinking behavior which ultimately led to a second DUI arrest?

C.   What were the TFA patterns of the study individuals determined by TFA Clinical Interview between days six and nine and between days twenty and twenty-three of their incarceration?

D.   What was the TFA pattern of the study individuals determined by HBI and TFA Clinical Interview thirty days after parole with regard to their decision to engage in drinking?

4.   Incarceration has no impact on TFA patterns of DUI second offenders assessed by HBI and TFA Clinical Interview measured at the time when the decision was made to engage in drinking behavior which led to a second DUI arrest and at a time thirty days after their parole from jail.

A.   There is no difference in sample means of thoughts assessed by HBI and TFA Clinical Interview determined at the time of decision to engage in drinkingbehavior leading to a second DUI arrest and thirty days after parole from jail.

B.   There is no difference in sample means of feelings assessed by HBI and TFA Clinical Interview determined at the time of decision to engage in drinking behavior leading to a second DUI arrest and thirty days after parole from jail.

C.   There is no difference in sample means of

actions assessed by HBI and TFA Clinical Interview determined at the time of decision to engage in drinking behavior leading to a second DUI arrest and thirty days after parole from jail.

Delimitations

The following delimitations applied to this study:

1.   This study included only DUI second offenders.

2.   This study included only male offenders.

3.   This study focused on the adult population in the age range of 21 - 45.

4.   This study focused on those offenders incarcerated in rural south-central Pennsylvania.

5.   This study focused on DUI second offenders not associated with a fatality causing incident as a result of this arrest.

6.   This study focused on those individuals arrested for a second DUI offense within seven years of the first offense in the Commonwealth of Pennsylvania.

7.   This study focused on individuals who volunteered to participate in the project.

8.   This study focused on individuals who did not participate in a therapy program since their arrest for their second DUI offense.

9.   This study was based on self-reports by the individuals.

10.   This study included individuals for whom drinking or

operation of a motor vehicle may have been restricted by law.

11. This study included individuals arrested for driving under the influence of alcohol and not other psychoactive drugs.

Limitations

There were five limitations which may have impacted on the generalizability of the results of this study.

1. TFA Systems (tm) had not been applied to a population of DUI second offenders. Thus, the use and application of the instrumentation needs to be carefully scrutinized.

2. The study was limited geographically to one county in south-central Pennsylvania and should be cautiously generalized to other regions and to DUI second offenders as a whole. However, a DUI for Pennsylvania as compared to other areas, is probably more alike than unlike.

3. The motivation of individuals participating in this study may have skewed their responses to the test instruments. Individuals who are incarcerated may exaggerate the negative components of their behavior in an effort to show remorse. Individuals released from prison on parole may exaggerate the positive components of their responses in an effort to stress their positive rehabilitation and remain free on parole.

4. Study individuals may have become familiar with the test instruments which might have influenced results.

5. Time factors limited the study's parameters. Observations made during this study were limited to a sixty day period in an individual's experience. Longitudinal studies will be required to determine behavior changes over time.

Definitions

Behavior - The interaction of thoughts, feelings, and actions (Hutchins, 1984). Behavior is more than a reflex arc (stimulus followed by response). It is an ongoing reciprocal interaction with thought, feeling, and action components (Clow, 1989).

Blood Alcohol Concentration (BAC) - The number of grams of pure alcohol present in 100 milliliters of blood (Greenfeld, 1988).

Court Reporting Network Client Intake Form (CRN) - A ninety-three question data collection form used by the Pennsylvania Alcohol Highway Safety Program for all DUI offenders. Data collected includes demographic information, income and employment status, driving and arrest history, drug and alcohol use history, and client's perception of their drinking problem.

Driving Under the Influence (DUI) - A second degree misdemeanor offense in the Commonwealth of Pennsylvania characterized by the operation of a motorized vehicle by a driver considered legally impaired as a result of the

consumption of a psychoactive substance. In a situation involving alcohol consumption, DUI refers to driving a motorized vehicle with a legal blood alcohol concentration at or above .10 grams of alcohol per deciliter of blood (Sleet, Wagenaar, and Waller, 1989).

Hutchins Behavior Inventory (HBI) - An instrument created by Hutchins (1984b) to assess an individual's TFA orientation in the TFA model (Clow, 1989).

Impaired Driver - Based on the classic study of BAC level and crash involvement conducted by Borkenstein and coworkers in Grand Rapids in the early 1960's. the impaired driver is a person who attempts to operate a motor vehicle after consuming sufficient quantities of alcohol to raise their BAC to .10 percent or higher. Motor vehicle operating tasks most critically affected by a BAC of .10 percent or higher are 1) a reduced ability to distinguish close, but separated, moving objects, 2) poorer performance on complex tracking tasks, and 3) a reduced ability to handle emergency maneuvers (Sweeney et al., 1988).

Psychoactive Substance Abuse - A maladaptive pattern of use indicated by either 1) continued use of a psychoactive substance despite knowledge of having a persistent or recurrent social, occupational, psychological, or physical problem that is caused or exacerbated by use of the substance, or 2) recurrent use of the substance in situations when use

is physically hazardous (American Psychiatric Association, 1987).

Psychoactive Substance Dependence - A cluster of cognitive, behavioral, and psychological symptoms that indicate that the person has impaired control of psychoactive substance use and continues use of the substance despite adverse consequences (American Psychiatric Association, 1987).

Recidivism - A legal situation referring to a subsequent arrest and conviction for DUI (Smith, Shaw, and Johnson, 1987).

TFA Clinical Assessment - The assessment of an individual's TFA orientation in the TFA model through the use of a structured clinical interview.

TFA Model - A theoretical model devised by Hutchins (1979, 1982, 1984) conceptually and graphically relating a person's level of thinking, feeling, and acting in a given situation (Mueller, 1987).

TFA Systems (tm) - The application of the TFA model in the form of a comprehensive approach to problem identification, description, intervention, and resolution (Hutchins and Vogler, 1988).

TFA Triad - Any one of 27 triangles bound by the TFA Triangle and representing an individual's behavior given a specific situation. Each vertex of the TFA Triad is related to thinking, feeling, or acting dimensions of one's behavior.

Together, these three points operationally describe the interaction of one's thoughts, feelings, and actions in a specific situation.

TFA Triangle - An open-ended triangular form with vertices designated as T (thinking), F (feeling), and A (acting). The form on which an individual's behavior, relevant to a specific situation, is scribed.

Significance of the Study

This action study contributes to the body of knowledge leading to more effective intervention strategies for DUI repeat offenders. The findings of this study have important implications for the criminal justice system and those entities responsible for providing intervention services for the court. It is the researcher's belief that current assessment strategies fail to include an evaluation of the events leading up to a convicted drunk driver's decision that circumstances warranted risk-taking behavior. While repeat offenders may share certain characteristics with each other, this study suggests that each individual repeat offender has also experienced unique thoughts, feelings, and actions which have contributed to deviant behavior. Intervention strategies aimed at helping the individual learn to stop risk-taking behavior requires an accurate assessment of the factors which lead to ignoring the consequences of such behavior.

First, the study provides insight into the thoughts,

feelings, and actions, of convicted drunk drivers eight hours, four hours, and one hour before as well as at time of their decision to engage in risk-taking behavior which led to a subsequent arrest and conviction for a second DUI offense. Such information will be beneficial in the development of intervention strategies for the DUI first offender based on the needs of the individual. Such information will also be useful in determining factors which influence behavior and override consideration of negative consequences. The method of assessment was the TFA Clinical Interview conducted at each interval.

Secondly, the study provided insight into the behavior of the DUI second offender during incarceration. Such information was beneficial in the assessment of the impact of incarceration on individual behavior. Contained in this assessment was a comparison of behavior patterns at two specific time periods during the individual's incarceration. The first assessment was made between the sixth and ninth day of incarceration and the second assessment was made between the twentieth and twenty-third day of incarceration. The method of assessment was the TFA Clinical Interview.

This study also provided a comparison of patterns of behavior before and after incarceration with regard to decisions regarding drinking. This pre and post comparison of the HBI and TFA Clinical Interview provided some indications

as to change in individual behaviors as a result of incarceration.

Finally, the study had the potential to isolate particular behavior patterns of DUI second offenders, using the Hutchins Behavior Inventory and TFA Clinical Interview, which could be used as an assessment tool when planning intervention services for DUI first offenders. Such information could lead to the development of predictive high-risk behavior patterns among DUI offenders as a group.

Organization of the Study

A review of the literature related to the definition of the DUI offense, characteristics of DUI offenders, intervention strategies, and study variables is presented in Chapter Two. In Chapter Three, the instrumentation and research design are discussed. This includes a description of the method of data collection and forms utilized in the collection process.

Chapter Four includes the findings which emerged from the analysis of the data collected from this study. Implications of the literature review in relationship to the findings of this study are discussed.

Chapter Five includes recommendations for assessment and treatment of DUI offenders as well as suggestions for further study.

CHAPTER TWO

Review of Literature

This chapter includes a review of existing literature as it applies to the purpose of this study. First, current research defining impaired driving and DUI will be presented. Second, literature pertaining to the characteristics of the DUI offender, the repeat DUI offender, and study variables will be synthesized. Third, the impact of legal sanctions and various intervention strategies will be reviewed. The final section will include a review of the TFA concept which will be utilized in this study.

Impaired Driving

The standard of level of driver impairment as a result of alcohol consumption was set as a result of the Grand Rapids Study; an experimental study of the causal role of alcohol in traffic crashes conducted in the 1960s by Professor Robert Borkenstein and colleagues at the University of Indiana (Jacobs, 1989). Accident involved drivers were compared with a control group of non-accident involved drivers drawn at random from drivers passing the sites of a large sample of accidents that had occurred over the previous three years (Perrine, 1990). This classic study of the relationship between BAC level and crash involvement showed that the crash risk of a driver with a BAC of .04 percent was the same as a driver with a BAC of zero. At a BAC of .10 percent, the

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probability of crash involvement was shown to be more than six times as great as a driver with a BAC of zero. Borkenstein concluded that BACs over .04 percent are definitely associated with an increased accident rate and that the probability of accident involvement increases rapidly at BACs over .15 percent (Perrine, 1990). While the Grand Rapids study provided substantial implications between the probability of accident involvement and levels of BACs, it failed to prove that alcohol caused accidents and did not provide insight into what percentage of drivers at different BAC levels were likely to crash. Jacobs (1989) also draws attention to the fact that approximately 90 percent of the Grand Rapids accident-involved drivers tested negative for any alcohol clearly indicating that alcohol intoxication is not the cause of the majority of traffic accidents.

Research on the effects of alcohol on driving-related behavior and driving performance has been summarized by the National Highway Traffic Safety Administration (NHTSA) (1989). Some of the major findings of research conducted in this area include:

A.   Neuromuscular functioning begins to be impaired at a BAC of .04 percent or lower, but impairment can be "controlled" by some subjects at a BAC as high as .20 percent.

B.   Purely sensory aspects of vision (e.g., static

visual acuity and peripheral vision) show little or no impairment at BACs lower than about .10 percent. More complex visual performance (e.g., dynamic visual acuity) is impaired at BACs as low as .08 percent.

C.   Impairment of complex tracking performance and divided attention tasks begins to occur at BACs as low as .02 percent.

D.   Short-term memory is relatively unaffected even at moderate BACs.

E.   Performance of activities involving simultaneous bodily functions is degraded more at a lower BAC than is performance of a single function.

F.   Some modalities of driving performance as measured in closed-course experiments are degraded at BACs as low as .05 percent.

G.   Impairing effects of alcohol can be present long after drinking has ceased and the BAC has returned to zero.

Moskowitz and Robinson (1988) have recommended the legal BAC limit be set at .05 percent. This recommendation comes as a result of studies conducted in Australia and the Scandinavian countries which cite the performance of tracking and divided attention tasks being degraded at BACs

considerably less than .05 percent. They also conclude that information processing, perception, and psychomotor skills are impaired at BACs of less than .10 percent but generally more than .05 percent. Certain skills important for driving are impaired at the .01 to .02 percent BAC, or, in other words, at the lowest levels that can be measured reliably (Aitken and Zobeck, 1985; Moskowitz and Burns, 1990). This suggests that concerns should be focused on the entire spectrum of drunk drivers rather than limiting emphasis on those individuals with high BACs.

Persistent consumption of alcohol produces tolerance to the drug. Mitchell (1985) discusses some of the aspects of alcohol tolerance on performance impairment and concludes that impairment on some tasks is greater when an individual's BAC is rising than when the BAC is falling. Epidemiologic and experimental studies have confirmed that there is, indeed, a chronic tolerance effect. Sensorimotor coordination tasks show the greatest degree of tolerance but some experiments have shown that heavy drinkers are less effected at moderate BACs than are light drinkers (Jones and Joscelyn, 1978).

Grant (1987) presents an overview of developments in neuropsychological studies of alcoholics in the 1980s. Of significance in this summary were the following conclusions:

A. Long-term abstinence can be associated with slow recovery, suggesting the presence of

intermediate-duration organic disorder.

B. Recently detoxified alcoholics manifest deficits in abstracting ability, complex perceptual-motor skills, and learning and recall but demonstrate preserved verbal intelligence, and,

C. A dose-effect relation between alcohol consumption variables and human neuropsychological performance has not been established.

The "killer drunk" (Gusfield, 1985) or the "malevolence assumption" (Hamilton and Collins, 1981) suggests that any appearance of alcohol in connection with an instance of an unapproved outcome is an instance caused by alcohol. To what degree alcohol consumption is a factor in accidents is still not clearly determined, however, public attitudes tend to hold the drinking driver as morally culpable. Such is not necessarily the case of others who, while sober, manufacture dangerously designed automobiles, who drive when too old or too young, who drive too fast for road conditions, who drive defective automobiles, who drive when fatigued or without using seat belts (Gusfield, 1985). Studies on alcohol consumption and the aging process have concluded that elderly drivers who also drink may be highly impaired at much lower levels of intellectual functioning which accompanies aging and

the physiological impact of alcohol on the system (Parker and Noble, 1980).

The literature suggests that alcohol consumption is but one factor associated with impaired driving. While research infers a relationship between alcohol consumption and fatal traffic accidents, the actual degree of impairment in driving performance which can be directly attributed to alcohol consumption is still unknown. Other factors, including both demographic and psychosocial variables will be discussed later in this chapter.

The DUI Offense

Each state in the United States has established DUI legislation regarding driving under the influence of alcohol. Most states have established per se laws which indicate that a specified level of alcohol in the body of a driver is, in itself, an offense regardless of whether the driver has committed a moving violation or has been involved in a crash. Seven states have established presumptive levels at which a driver is presumed to be impaired (Sweeney et al., 1988). The commission of a DUI offense is not dependent on the occurrence of any harm and is, therefore, classified as an inchoate offense. DUIs also classified as a criminal offense which allows police officers to take preemptive action before accidents occur.

Both per se laws and presumptive laws have been

challenged on grounds of vagueness and presumption of recklessness. Jacobs (1989) suggests that many laws pertaining to DUI are vague in defining such terms as intoxication and impairment. "The offense of drunk driving rests on a conclusive presumption that all instances of DUI and driving with a BAC greater than .10 are reckless, that is, significantly endanger other road users. Conclusive presumptions about whole categories of persons, activities, and behaviors, even if formulated as substantive offenses, are incompatible with a criminal jurisprudence that emphasizes individual culpability" (Jacobs, 1989, p. 62). While the awkward fit between criminal law and drunk driving exists, changes in the law would require prosecutors to demonstrate that each drunk driver recklessly endangered other road users.

Prevalence of the DUI Offense. Statistical data relevant to DUI has been collected by various methods over the last twenty years. The most extensive electronic data collection effort, the Fatal Accident Reporting System (FARS), was initiated in 1975 by the National Highway Traffic Safety Administration. Analysis of data collected indicates that the BAC is considered to be the best indicator to determine the trend of alcohol involvement in traffic accidents and that, over the past seven years, there has been a steady decline in alcohol involvement in fatal crashes (Fell, 1990).

Use of roadside surveys including a breath analysis to

determine BACs became a popular means to determine the effectiveness of DUI countermeasures. Roadside surveys, conducted primarily in the mid-1970s, indicated a reduction of drinking and driving (Lehman, Wolfe, and Kay, 1975; Levy, Voas, Johnson, and Klein, 1978; Voas and Hause, 1987). A subsequent National Roadside Breathtesting Survey, conducted in 1986 in 32 localities in the United States, found significant reductions in the percentage of medium and high BAC drivers sampled at high-risk times (Wolfe, 1986).

Efforts to estimate the prevalence of drinking and driving have resulted in confusing data. Smith and Remington (1989) estimated 150 million annual occurrences of drinking and driving from self-report data collected in 1986 through the Behavioral Risk Factor Surveillance System. While certain limitations were noted in this telephone survey, the authors were unable to explain disparities between their estimates and the estimates of a study completed in 1985 by another research team which suggested that estimates were about four times higher. Noting the difference in time between the studies, the difference in questionnaire design, and possible sampling errors, the authors did little to provide meaningful data regarding the prevalence of drinking and driving in the general population.

The National Highway Traffic Safety Administration indicates that the single major development in the time period

between 1985 and 1989 has been the reduction in the percentage of crashes involving alcohol (NHTSA, 1989). Factors influencing this reduction include drinking-driving countermeasures implemented in all states, an increase in the minimum drinking age, and the leveling off of a long-term trend of increasing per capita alcohol consumption (NHTSA, 1989, p. 58). To what degree alcohol consumption influences driving decisions which result in accidents is still not known. Additionally, the decrease in crashes involving alcohol has not been accompanied by a decrease in the number of persons with severe drinking problems who are involved in crashes or nighttime weekend driving populations (NHTSA, 1989, p. 58).

Characteristics of the Adult Offender

Efforts to understand more about the characteristics of the DUI offender have resulted in various research approaches. Initial efforts after World War I formulated the basic knowledge regarding the correlation of BAC to performance and judgment. A second direction taken was the determination of crash risk associated with BACs (Ross, 1984). The culmination of these research efforts quantified the real-world effects of alcohol on motor vehicle operation which led to the formulation of legal sanctions intended to reduce alcohol related fatal crashes.

Univariate Studies. Many research studies conducted

through the 1970s focused primarily on determining the incidence of alcoholism among the DUI population. These studies attempted to establish a continuum, of drinking severity based on medical, sociopsychological, and drinking style parameters based on a single statistical criterion. This method of analysis fell short in providing a portrait of the offender population in relationship to a complete array of measurements and the more general dimensions underlying those measures. Perrine, Peck, and Fell (1988) found that the following characteristics were often used to create problem-drinking continua:

A. Scores on psychometric and personality tests (e.g., MMPI)

B. Scores on tests specifically designed to detect problem drinkers and alcoholism (e.g., Mortimer-Filkins and MAST)

C. Quantity - Frequency index scores

D. Blood alcohol levels at the time of arrest or accident involvement

E. Prior record of DUI offenses and alcohol-involved accidents

F. Prior arrests for public drunkenness and alcohol-associated misdemeanors

G. Other criminal offenses

Table 1 represents some of the most current univariate

Table 1

<u>DUI univariate studies and variables</u>

	Variable						
<u>Study</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>
Nichols and Reis (1974)				X	X		
Epperson, Harano, and Peck (cited in Perrine et al., 1988)		X		X	X		
Fine, Scoles, and Mulligan (1975)			X				
Struckman (1975)		X			X		X
Sutker, Brantley, and Allaine (1980)	X						
Homel (cited in Nichols and Quinlan, 1988)						X	X

A = Scores on psychomotor and personality tests; B = Scores on MAST or Mortimer-Filkins Questionnaire; C = Quantity/Frequency Index score; D = BAC at arrest or after an accident; E = Prior DUI arrest or alcohol involved accident; F = Prior arrest for public drunkenness or alcohol related misdemeanors; G = Other criminal offenses.

research and the variables included in each study. Vingilis (1983) provides a comprehensive review of other univariate studies involving alcohol abuse and the drinking-driver offender, alcohol abuse of collision involved drivers, and drunken-driving behavior of alcoholics. One major conclusion drawn from this review suggests that alcoholics and drinking-drivers are not the same population, however, they are not mutually exclusive. A second conclusion strongly suggests that drinking-driving violations and collisions may be one of the early predictors of alcoholism.

The vast majority of research available focuses on the characteristics of the problem drinker or the characteristics of drivers involved in fatal crashes. There are, however, few studies which focus attention on the characteristics of the convicted DUI offender. The population that is arrested and convicted of DUIs is not typical of impaired drivers in general or of drivers involved in alcohol-related accidents (Zylman, 1974; Perrine, Peck and Fell, 1988).

While univariate studies did not provide the predictive variables for DUI recidivism or accident involvement, the studies did provide some insight in distinguishing DUI offenders from drivers in general.

Multivariate Studies. Research efforts over the past ten years have been directed at the development of multidimensional classifications of the drinking driver. Only

a few studies have been reported which employed formal methods of factor and cluster analysis. Steer, Fine, and Scoles (1979) reported one of the earliest multivariate studies. Using demographic information, self-report of drinking quantity and frequency, neuroticism and impairment index scores on the Eysenck Personality Inventory, and BAC at the time of arrest, the researchers were able to assign nearly 90 percent of the study sample to seven predominant subtypes. Race, prior DUI arrest, previous treatment for alcoholism, other drug use, and father's use of alcohol differentiated significantly among the seven subtypes.

Using cluster analysis of 17 driving-attitudinal, personality, and hostility measures, Donovan and Mariatt (1982) were able to identify five subtypes among 172 DUI offenders. Two of the five subtypes were found to have high levels of risk-enhancing characteristics. The first group expressed high levels of driving-related aggression, competitive speed, sensation seeking behavior, assaultiveness, irritability, and direct and indirect verbal hostility. The second group displayed high levels of depression and resentment as well as low levels of assertiveness, emotional adjustment, and perceived control.

Wells-Parker, Cosby, and Landrum (1986) developed a typology of 353 DUI offenders who were referred to a probation and rehabilitation program in Mississippi. Forty-five

measures of traffic offense and criminal offense information were selected from information available from driver and criminal record files. Cluster analysis resulted in five subtypes. Statistical significance was found in relationships between the subtypes and BAC, Mortimer-Filkins scores, drinking status, and 24 month follow-up accident and DUI recidivism rates. The public drunkenness group had the highest BACs and the highest rate of subsequent accidents. The license group, those grouped according to equipment and licensing violations, had the highest DUI recidivism rates.

The authors compared the characteristics of their typologies with those of Steer et al. (1979), and with the study conducted by Donovan and Marlatt (1982) and found that all three studies included typologies which were distinguished by severity of drinking problem, age, and the extent to which the driving record reflected a general disregard for traffic laws.

The largest multivariate typology study of DUI offenders was conducted in Sacramento. Arstein-Kerslake and Peck (cited in Perrine et al., 1988) performed analysis on data from 7,316 DUI offenders collected during the California Driving Under the Influence project from September 1977 through January 1981. Through cluster analysis, nine groups were identified from the psychometric variables. A separate analysis of the demographic variables produced ten clusters.

An integrated system was not developed due to the cluster analysis on each domain but the chi-square was significant but low (1162.3 with df significance = 0.000). The authors suggest that while the two domains are associated, they are more independent than overlapping. They also suggested that the clusters would not remain fixed in time due to differences in drinking status, changes in age, and driving patterns.

Roadside Survey Research. Several roadside research studies have been undertaken to obtain empirical data regarding the distribution of BAC among drivers on public roadways. While most of the studies have been limited to obtaining BAC measures, some have been successful in obtaining extensive biographical and behavioral information. Such information is helpful in determining differences between individuals caught for DUI, those that drink and drive but do not get caught, and drunk drivers involved in fatal crashes.

Many of the early studies focused on determining the relative probability of being involved in a crash at various BAC measures. Hurst (1985) presents a comparison of nine studies which have focused on risk of crash involvement. Three of those studies (Manhattan, Grand Rapids, and Toronto) also attempted to estimate crash responsibility based on BAC measure.

Roadside surveys were also used to evaluate the effectiveness of alcohol safety programs by measuring the

change in the number of high BAC drivers actually on the roads. Using BAC as a dependent variable, sampling was conducted at times when a high percentage of drinking drivers were on the roadways. By returning to these same sites, changes over time were able to be measured (Perrine et al., 1988).

Roadside surveys have been useful in determining the perceived impairment of drivers who are operating vehicles after drinking, the perceived risk of being arrested for DUI, choice of beverage, the probability of arrest for DUI, and incidences of repeated frequencies of driving under the influence, with or without legal involvement.

Comparison of the results of the U.S. National Roadside Breathtesting Surveys conducted in 1983 and 1986 showed significant reductions in the percentages of medium and high BAC drivers sampled at high-risk times (Friday and Saturday nights from 10 p.m. to 3 a.m.). Drivers at or above the illegal BAC of 0.10 decreased from 5.0 percent in 1973 to 3.1 percent in 1986; drivers at or above a BAC of 0.05 decreased from 13.5 percent in 1973 to 8.3 percent in 1986 (Perrine et al., 1988).

Other case/control roadside studies have provided the opportunity for researchers to ask questions about drinking practices and attitudes. Damkot, Perrine, Whitmore, Toussie, and Geller (1975) investigated beverage choice, amount of

alcohol consumed at a particular sitting, drinking location, individual perception of impairment including levels of alcohol consumption at which they felt they could still safely perform all necessary driving skills, and previous DUI convictions. Conclusions drawn from this study indicate that beer was the preferred beverage among male motorists, heavy and frequent consumption of beer was highly associated with BACs above the legal limit, and drivers under 30 consumed more alcohol more frequently than drivers aged 40 or older. Additionally, 46 percent of legally impaired drivers reported drinking at a bar, respondents indicated they could drink more bottles of beer than shots of liquor as their safe limit, and a large proportion of younger drivers (18 to 29) felt they could not drive safely after a few shots of alcohol as opposed to five or more bottles of beer. Individuals with previous DUI convictions and with high BACs were proportionally over-represented in this study which was interpreted as an indication of the serious persistence of alcohol misuse among convicted DUI drivers (Perrine, 1990).

A five year study funded by the National Institute on Alcohol Abuse and Alcoholism (NIAAA) is currently underway in Vermont. This study is estimated to include data collected from 42,000 drivers and is designed to determine the prevalence of drivers with high alcohol tolerance, and to determine their salient and differentiating characteristics.

This data will then be compared to similar data collected in Vermont in 1974. The most significant early result of this study is that 50 percent of the legally impaired motorists actually passed the field sobriety test given as part of the study (Perrine, 1990). This suggests that individuals who have developed a high tolerance to alcohol as a result of increased consumption and increased frequency might avoid detection by standardized behavioral tests.

Characteristics of the Adult Repeat Offender

Several factors influence the determination of recidivism rates in the convicted DUI population. These factors include such issues as length of follow-up period, aggressiveness of DUI arrests in a particular region, plea bargaining, and retention of public records. Results of roadside research surveys have indicated a significant proportion of legally impaired motorists reporting prior DUI offenses. Damkot et al. (1975) reported that 19 percent of the male motorists who were legally impaired had had one or more DUI convictions in the previous three years. In California, approximately 35 percent of all DUI convictions each year involve drivers with prior DUIs within the preceding five years (Perrine et al., 1988).

Pollack, Didenko, McEachern, and Berger (cited in Perrine et al., 1988) attempted to develop a prediction model to identify repeat offenders in Los Angeles. Increased

recidivism was associated with lower education, younger age, and a higher incidence of traffic accidents, traffic violations, and non-traffic arrests.

Using discriminant analysis, performed separately for problem and nonproblem drinkers, Ellingstad (1974) identified six variables which were significant in recidivism analysis. These included prior DUI convictions, reckless driving convictions, total convictions, marital status, drinking patterns, and Mortimer-Filkins score.

McGuire (cited in Perrine et al., 1988) collected data on 2,255 convicted DUI offenders assigned to one of numerous countermeasure programs. Driver record recidivism data was collected for the 15 months after enrollment in the countermeasure programs. The significant predictors of accidents were sex, age, number of accidents in the last three years, and number of traffic tickets in the last three years. Significant predictors of alcohol-related convictions were marital status, number of full-time jobs in the last five years, frequency of smoking, number of tatoos, and number of traffic tickets in the last three years.

The Cook County Research and Evaluation project was formed in 1984 to conduct an independent evaluation of the Cook County, Illinois, DUI intervention practices. As part of the Central States Institute, which operates the largest DUI program in the United States with nearly 20,000 annual court

referrals, the Cook County Project selected 4,360 offenders for a comparison of first offenders and multiple offenders. Using both demographic and psychometric data, the study concluded that clear differences exist between and within these groups. Multiple offenders appeared to be significantly more disturbed in emotional and social areas than did first offenders (Pisani, 1986).

Using a multivariate approach, Arstein-Kerslake and Peck used multiple regression and discriminant function techniques to predict the 4-year DUI rate for first and second time offenders in Sacramento County. Table 2 represents the highest correlates found in this study. The authors concluded that DUI offenders are more likely to recidivate if their drinking problem is more severe and their driving record reflects numerous non-DUI and DUI related violations. The taxonomy developed by the authors discussed above also identified no first-offender group that was distinguishable from a multiple-offender group which suggests that most first offenders are problem drinkers who have simply not yet had their second offense (Perrine et al., 1988).

Rosenberg, et al. (1985) conducted a study to determine if initial DUI and multiple DUI offenses could be related to a knowledge deficit of basic alcohol and DUI related information. First offenders and multiple offenders completed questionnaires as part of an evaluation process into various

Table 2

DUI recidivism correlates

Variable	Highest correlates with repeat offenders
Age	younger
Marital Status	single or divorced
Driving Record	prior DUI, more traffic violations
Gender	male
Socioeconomic Status	blue-collar occupations
Race	ethnic minority
Alcohol Problem	higher BAC, previous alcohol treatment

countermeasure programs. Two forms of questionnaires were available; a twelve item form for first-time offenders, and a 40 item form for multiple offenders. The two forms of questionnaires contained nine common questions used to measure knowledge base of alcohol information and DUI related information. The results of this study indicated that both samples of subjects were well informed regarding some alcohol information such as tolerance, elimination of alcohol by the liver, and accident risk associated with increased BAC. The multiple offenders were more knowledgeable regarding issues surrounding legal issues and beverage equivalency. The authors concluded that both groups had sufficient accurate knowledge about alcohol consumption and driving risk, however failed to implement any safe intervention strategy. Suggestions were made to present specific cognitive, behavioral, and affective skills that can be applied to prevent situations in which the individuals are likely to drive while intoxicated.

Several studies have been undertaken to evaluate the usefulness of personality tests and alcoholism scales to predict which first offenders will recidivate. The Minnesota Multiphasic Personality Inventory (MMPI) has been the primary inventory used in attempting to identify personality constructs which predict alcoholism as well as DUI recidivism. Snowden and Campbell (1984) studied reasons given for drinking

by problem drinker-drivers and related these to MMPI subscales, the MAST, record of DUI convictions, and program dropout rates. The authors concluded that reasons for drinking formed patterns related to psychological adjustment. Conley and Kammeier (1980) identified seven MMPI items which discriminated alcoholics in treatment from both normals and psychiatric patients. The conclusions drawn indicated that these seven items were a characteristic of diagnosed alcoholics.

Five MMPI alcoholism scales were evaluated by Holmes, Dungan, and McLaughlin (1982) and found to be of questionable validity in accurately classifying two groups of alcoholics and one group of non-alcoholic psychiatric patients. The scales compared in this study were the Hampton Scale, Holmes Scale, Hoyt and Sedlacek Scale, MacAndrew Scale, and the Rosenberg Scale.

Graham and Strenger (1988) present an extensive review of empirical research regarding the use of the MMPI in identifying specific personality characteristics of alcoholics. Their impressions resulting from this review indicate that there is no single alcoholic profile and that there are important individual differences among alcoholics. Further research was called for in identifying the differences between alcoholic subgroups rather than focusing on similarities.

Craig and Dres (1989) also found the MMPI to have limited clinical utility in predicting DUI recidivism. While some significant statistical differences did emerge between the groups compared (100 first offenders and 100 repeat offenders), the authors determined that these variables predicted only 10 percent of the variance contributing to the prediction of recidivism.

The Mortimer-Filkins test and the MAST have been the major instruments used to distinguish between alcoholics, problem drinkers, and non-problematic drinking behavior. Mann, Leigh, Vingilis, and DeGenova (1983) discussed the major strengths and weakness of these two instruments as assessment tools for DUI populations. The authors concluded that the Mortimer-Filkins had major weaknesses as an assessment tool especially with regard to predictive and concurrent validity. On the positive side, the authors note that this instrument contains items not obviously related to alcohol and this low face validity may reduce the incidence of denial among the DUI population. The MAST has been well validated in both clinical and non-clinical settings in screening for alcoholism. Many of the validity problems noted with the Mortimer-Filkins test also apply to the MAST when applying this instrument to the DUI population. The authors concluded that studies which have relied solely on these tools and their diagnostic abilities must be regarded with some suspicion because of the probability

of classification errors. This conclusion supports the study by Wendling and Kolody (1982) on their assessment of the Mortimer-Filkins test and is later supported by a study conducted by Mischke and Venneri (1987) in which the reliability and validity of the MAST, Mortimer-Filkins Questionnaire, and the CAGE were assessed.

Some researchers who have completed multivariate studies have also attempted to identify certain clusters of psychometric and demographic variables which predict recidivism. A three year follow-up of the Donovan and Mariatt (1982) study investigating personality subtypes through analysis of driving records indicated subtype membership was not a significant predictor of DUI recidivism or accidents (Donovan, Queisser, Salzberg, and Umlauf, 1985). Wells-Parker et al. (1986) gathered information in a 24-month follow-up period and were able to establish recidivism rates in relationship to the five typologies they had identified but were unable to determine variables specific to DUI recidivism or accidents.

Arstein - Kerslake and Peck (cited in Perrine et al., 1988) were able to investigate the structural relationship between derived psychometric clusters and descriptive clusters by crosstabulating the two systems. Again the contingency table generated failed to identify specific variables which could predict recidivism.

Argeriou, McCarty, Potter, and Holt (1986) compared repeat offender males and females to their first offender counterparts. Repeat offenders were divided into two groups; those that had two DUI offenses and those who had more than two DUI offenses. The authors found no significant differences according to sex within the offender subgroups. Repeat offenders were found to drink more often, get drunk more often, abuse drugs in proportionately greater numbers, utilize more alcohol treatment services, have fewer economic resources, and exhibit greater impairment as a result of their drinking. The authors also noted that, in each subgroup of DUI offender, the proportion of women decreased as the severity of penalty increased. Women were also noted to constitute a relatively small proportion of the total population arrested for DUI but trends show this proportion rapidly increasing.

Other references to recidivism have been cited in conjunction with specific modes of deterrence or intervention approaches. These studies will be cited later in a discussion of the response of the public and the legal system to the DUI problem.

Intuitively, DUI recidivism can be predicted to a limited extent. Those individuals with drinking problems who demonstrate a general disregard for traffic laws continue to be arrested for DUI offenses. Obvious negligent driving

attracts the attention of enforcement officials as do crashes and presents interesting questions regarding the "average" DUI offender. Both drinking variables and driving variables must be considered in development of any typological system.

In conclusion, the literature indicates that convicted DUI offenders differ from the general driving population on a wide range of variables. They share some of the same characteristics as negligent drivers, drivers involved in alcohol related accidents, and alcoholics but also have unique characteristics. Many of the multivariate studies show some consistency across the subgroups identified and these systems may become more useful in designing more effective models of treatment. Major problems facing researchers include the quality and accuracy of information gathered through public enforcement agencies and the lack of consistent enforcement within regions and between states. Roadside research surveys have provided some insight into the "typical" DUI offender as compared to other studies which focus on those drivers who are convicted DUI offenders.

Study Variables

This study focuses on three types of variables; those descriptive variables associated with the individual, variables relevant to alcohol consumption, and variables relevant to driving.

Individual Variables

Age, gender, marital status, educational level, and socioeconomic level have been used in both univariate and multivariate studies in an effort to classify subgroups of DUI offenders. While other descriptive variables have been tested, these appear most commonly in the literature.

<u>Age</u>. Young adults comprise most of the DUI convictions and are involved in most alcohol-involved fatal crashes. FARS data collected over the last twenty years indicates that 20 - 24 year olds, as a group, have the greatest proportion of drinking drivers (Fell, 1990). The percentage of alcohol-impaired drivers involved in fatal crashes has decreased for all age groups over the last ten years with the largest percentage declines noted in the youngest age group (16 - 19) and the oldest group (65 and older). Data on single-vehicle fatal crashes suggest that drivers under the age of 25 still represent a significantly smaller proportion of the problem than they did ten years ago but drivers in the age group 25 - 34 account for a significantly larger proportion of the problem than they did ten years ago (NHTSA, 1990). Drivers in the age group 16 - 24 account for 16.5 percent of the U.S. population, but account for 45 percent of all single-vehicle fatal accidents involving alcohol (NHTSA, 1985).

Wuth (1987) indicated that DUI offenders tend to be male, young (22 - 35) employed, married, and educated. Smith and

Remington (1989) found that the prevalence of drinking and driving was highest among those 18 - 24 and 25 - 34 years old and was inversely related to age. Gusfield (1985) cites literature which indicates that drinking problems are more prevalent among late teenagers and adults in their 20s than among the rest of the population. He also indicates that the frequency of drinking and driving and the types of drinking problems of youth differ from those among older adults.

Several studies focused on DUI in a broader sense as only one indicator of risk taking behavior. Donovan et al. (1983) cited studies which conclude that both men and women, 24 years old or younger, had a significantly higher accident vulnerability than did drivers of the same sex between the ages of 25 and 69. However, drivers who were 70 years or older had a higher potential for being involved in an accident than did those 24 or younger. Scoles, Fine and Steer (1984) defined the high-risk driver as likely to be married, under 40 years of age, educated, employed, and have a problem with alcohol. Donovan et al. (1985) found significant age differences between populations of high-risk drivers, DUI offenders, and the general driving population. Compared to the other two groups, the general driving population subjects were significantly older and better educated, as well as having a higher status in jobs and social position.

Impaired driving and accident risk by age appears to be

influenced by different factors. Young drivers do not have as much driving experience as older drivers, tend to consume more alcohol on an occasion having a higher sensitivity to the impairing results of alcohol, and drive mostly at more hazardous times and places. In a study focusing on drinking and driving attitudes, Mannering, Bottinger, and Black (1987) found that older drivers were more likely to drive after drinking than were younger drivers. The authors suggest that this finding may reflect more confidence among older drivers resulting from their additional drinking-driving experience and/or may indicate less awareness or sensitivity to the drinking-driving problem. The potential of accident involvement for older drivers is influenced by physical impairment of driving skills due to aging.

Studies comparing alcoholics to DUI offenders have also found significant differences in the average ages in each group. Selzer, Vinokur, and Wilson (1977) found that alcoholics were significantly older than the control group sampling and older than those individuals convicted of drunk driving. Vingilis (1983) confirms this tendency for alcoholics to be slightly older than drinking driver offenders.

Studies focusing on the multiple offenders in which age was considered a variable have had conflicting conclusions. In a study of predictors of recidivism of DUI, Beerman, Smith,

and Hall (1988) found that the mean age of nonrecidivists was 29 compared to 30 years for offenders with two DUI arrests, 31 for three, and 34 for four. Arstein-Kerslake and Peck (cited in Perrine et al., 1988) found that in a 4-year study of 7,316 first and second DUI offenders, recidivists were younger, as a group, than first offenders as a group. In the Cook County, Illinois, study including over four thousand participants, Pisani (1986) found that fewer drivers under the age of 30 and over the age of 60 were multiple offenders.

Gender. Drunk driving is an overwhelmingly male activity; almost 90 percent of arrestees are male (Jacobs, 1989). Data collected from FARS, roadside research, and studies of individuals convicted of DUI continue to support this position. Peek, Farnworth, Hollinger, and Ingram (1987) report studies which show that 9 - 20 times more men than women are arrested for DUI, men are more inclined to drive after drinking, and female drivers are more likely than male drivers to have lower BACs. Beerman, et al. (1988) reported that 85.1 percent of the 397 drivers arrested in Benton County, Oregon, in 1983 were male. Perrine et al. (1988) reported that 88 percent of convicted DUI offenders in a statewide sampling in California in 1982 were male. From FARS data for 1982, Gusfield (1985) indicated that men constitute 85-90 percent of all those arrested on DUI charges and almost as many of the motorist fatalities who are DUI. Snow (1988)

reported that males constituted 90.3 percent of the 6,183 people arrested for DUI in an eight-month study in Mississippi in 1982-1983. Pisani (1986) reported that while 86 percent of the DUI offenders seen in the Cook County, Illinois study are male, they constitute more than 90 percent of the multiple offender group. This study suggested that first offenders are six times more likely to be a male than a female, and the multiple offender is nine times more likely to be male. Again, citing other studies which have been conducted, Hoffman, Ninonuevo, Mozey, and Luxenberg (1987) indicated that the majority of DUI offenders in treatment are men. In a study focusing on accident risk, Donovan et al. (1983) indicate that men typically drive more than women and are therefore exposed to a greater potential for risk. When this differential was taken into account, women were slightly more likely to be involved in accidents than were men. In a study of gender roles and drinking and driving, females were found to have less previous role experience, both as general drivers and specifically as drinking drivers. Female drinking drivers were found to have driven fewer miles, have been involved in fewer traffic violations and accidents, and had less experience in driving after drinking.

National roadside studies have indicated some interesting trends along gender lines with regard to the general reduction of the proportion of drivers with BACs above the .10 percent

mark. In general, results of the surveys conducted in 1973 and again in 1986 have found a 51 percent reduction in the proportion of drivers with a BAC above .10 percent, and a 58 percent reduction in the proportion of drivers with a BAC of .05 percent or greater. Part of this improvement is attributed to the statistics which indicate that there was a higher proportion of women drivers on the road in 1986 than in 1973 and women have generally shown lower BACs than men (Snortum and Berger, 1989). Wilson and Mann (1990) indicate that, in the United States, women are found in increasing numbers in public drinking settings and in the DUI population. The possibility exists that these trends parallel trends relative to increases of women in the workforce.

Results from a 1986 state-level randomized telephone survey conducted by the Behavioral Risk Factor Surveillance System, a collection of 26 state coordinators and staff from the Centers for Disease Control in Atlanta, Georgia, indicated that men reported drinking and driving more frequently than women (6.7% to 1.8%), and, on the average, men reported 1.9 drinking and driving episodes per person per year, whereas women reported .04 such episodes per person per year (Smith and Remington, 1989).

Studies of repeat offenders also indicate a high incidence of male drivers. A Massachusetts study comparing recidivism rates between offenders receiving residential

treatment and incarcerated offenders found males to constitute 97 percent of the sample population (McCarty and Argeriou, 1988). This higher rate of male recidivists was also noted in the Weekend Intervention Program in Dayton, Ohio. In this study, 95.8 percent of males in the study recidivated while only 4.2 percent of the female participants had subsequent DUI arrest (Siegal, 1985).

Marital status. DUI convictees are much more likely to be divorced, separated, or widowed than are non-DUI control populations (Perrine et al., 1988). In a comparison of high-risk drivers, individuals convicted of DUI, and a control group selected from the general driving population, Donovan et al. (1985) reported that 73.4 percent of the control group was married as compared to 32.6 percent and 40.9 percent of the high-risk group and the DUI group in proportion of married subjects (32.6% vs 40.9%) and the proportion who were divorced or separated (17.6% vs 28.1%).

Table 3 represents several studies which have reported marital status as a study variable. An initial assumption which could be drawn from this data is that single men, including those who are divorced and separated have a higher propensity for DUI convictions. Such a conclusion is not consistent with absolute values collected from various data sources. Jones and Joscelyn (1978) report that 69 percent of all male drinking drivers are married, whereas separated and

Table 3

Marital status among male DUI repeat offenders

Citation	Marital status (in percentage of sample)		
	Single	Married	Separated/Divorced
Selzer, Vinokur, and Wilson (1977)	20.3	59.3	20.3
Donovan, Queisser, Salzberg, and Umlauf (1985)	31.0	40.9	28.1
McCarty and Argeriou (1988)	54.0	22.0	24.0
Miller, Whitney, and Washousky (1986)	42.0	34.0	24.0
Metzger and Platt (1987)	22.2	46.5	31.3
Snow and Anderson (1987)	-	39.7	-
Snow (1988)	-	38.6	-

divorced men comprise only 18 percent. Gusfield (1985) cautions researchers not to conclude that the problem of drinking-driving is primarily one located among youth or unmarried men.

In a study of sociodemographic characteristics influencing drinking, Snow (1988) researched drinking location and its relationship to drunk driving. In this study he found that, while marital status and age were interrelated, they were also independently associated with drinking location. He concludes that the desire to meet potential sexual and/or marital partners may be an important factor influencing the selection of drinking places such as parties and bars among unmarried offenders. Such a condition would naturally expose unmarried individuals to higher-risk driving times and conditions (i.e., weekends and nights).

There were no studies which explored the quality of marital relationships with regard to the DUI offender. There was no indication from the studies reviewed that live-in relationships were included in the data or if single individuals lived alone, with parents, with their children, or with friends. The number of divorces or number and frequency of marital separations could provide valuable information regarding emotional, psychological, and lifestyle stability.

<u>Educational level of achievement</u>. The relationship between DUI and education is not clear. A review of studies

in which education was considered a variable has resulted in mixed conclusions. In general, high school graduation was used as a milestone to distinguish between educated and non-educated participants.

Several studies compared the DUI offender to other populations. Selzer et al. (1977) compared demographic, drinking, and psychosocial variables of 289 alcoholics, 306 DUI offenders, and 269 control subjects. Mean education in years for each of these respective groups was 11.7, 11.6, and 14.3. Vingilis (1983) cited studies which included similar groups and found the mean education in years to be 11.1, 11.5, and 12.6 respectively. Hoffman et al. (1987) compared court-referred DUI arrestees to other outpatients in substance abuse treatment and found the educational level of the two groups to be comparable to each other but gave no statistic.

Donovan et al. (1985) compared high-risk drivers, convicted DUI offenders, and a control group from the general driving population and found respective average education in years to be 12.5 11.9, and 13.7.

Snow and Anderson (1987) and Snow (1988) focused on a combined DUI first offender sample of 13,332 individuals arrested in Mississippi. These studies found the average years of education to be 11.39 for the first study, and 11.7 for the second.

In a telephone survey of over 22,000 participants

focusing on drinking-driving behavior in the month before the interview, Bradstock et al. (1987) found that higher levels of education were associated with higher reported rates of drinking-driving among those over age 24. Individuals with less than a high school education were found to have a significantly lower rate of drinking-driving than those with more than a high school education. The rate for those with a high-school education was intermediate. When confined to those participants aged 25 - 59, the authors reported that differences in the rate of drinking-driving by educational level disappeared. Smith and Remington (1989) found that, among men in two age groups (18 - 34, and 35 - 54), those with less than a high school education generally reported less drinking and driving than did men in the same age groups with more education. In other age groups, the authors found no consistent relationship between drinking and driving and educational level. These studies did not distinguish between those who had never been arrested for DUI offense and those who have, or between those who may have been arrested one time and those who were repeat offenders.

Metzger and Platt (1987) studied 369 drinking drivers referred to the Philadelphia Alcohol Safety Program as part of an 18-month study of the counseling component of this program. The mean educational level in years of this group was 10.0. There was no distinction made between first offenders and

repeat offenders.

Two studies compared educational levels of DUI first offenders with the levels of multiple offenders. Argeriou et al. (1986) found little difference between the mean educational levels of within offender subgroups. Across subgroups, mean educational levels decreased in a parallel manner for males and females as a group admitted to three programs based on number of DUI offenses. Pisani (1986) found there was a clear relationship between a person's level of education and the likelihood of committing multiple DUI offenses. When this analysis of 2,817 DUI first offenders and 1,163 DUI multiple offenders was limited to offenders over the age of 19, it was found that those who did not finish high school were over-represented among the multiple offenders. While 39 percent of the offenders with less than an elementary school education were multiple offenders, only 27 percent of college graduates and 25 percent of those with some graduate school experience fell into the multiple offender group.

Whether attained educational level is a benchmark for predicting DUI recidivism remains questionable. Absent from statistics on educational attainment are references to the proportion of individuals completing General Equivalency Diploma requirements, those individuals having special learning problems which required special educational services, and those individuals who completed high school diploma

requirements or college courses as part of a prison rehabilitation program. Older multiple offenders who have not completed high school may be reflective of a time in our society when a high school diploma was not a necessary prerequisite to enter the job market.

Socioeconomic status. Employment and occupational status have been the common variables considered as socioeconomic indicators. In general, most DUI offenders are employed and occupy blue collar jobs.

The impact of socioeconomic status may impact on arrest rate and diagnosis of alcoholism. Scoles et al. (1984) found that most high-risk drivers were married, under 40 years of age, educated, employed in jobs in which their annual salaries were above $19,000, and had problems with alcohol. The authors constructed a personality profile of the high-risk driver using the Sixteen Personality Factor Questionnaire which included characteristics such as intelligent, warmhearted, resourceful, shrewd, and impulsive. Citing arrest records for DUI and other traffic violations, the authors concluded that the probability of being charged for DUI appears to be associated with socioeconomic class rather than the obvious drinking episode. Luepnitz, Randolph, and Gutsch (1982) found that trained professional interviewers made significant errors in diagnosis of alcoholism when socioeconomic status and race were factors. These authors

concluded that white, higher socioeconomic status individuals often appeared to be diagnosed incorrectly as not meeting the established criteria for alcoholism.

Donovan et al. (1983) studied socioeconomic status as one variable associated with accident risk. They concluded that unskilled and semiskilled manual laborers evidenced nearly twice the accident risk of white-collar professional workers. In a follow-up study, Donovan et al (1985) compared high-risk drivers and convicted DUI offenders with a control group from the general driving population. The authors concluded that the control group had higher status on jobs and had higher social position than the two study groups and that the DUI offender group was of lower social position than the high-risk driving group.

In comparison of DUI offenders, alcoholics, and control group participants with regard to occupational status, Selzer et al. (1977) found that blue-collar occupations were heavily represented by the alcoholic group and the DUI group (70.1 percent and 70.8 percent respectively), while the control group showed more of a balance between occupational status with 54.0 percent white-collar representation and 46.0 percent blue-collar representation. Moskowitz, Walker, and Gomberg (cited in Perrine et al., 1988) found that DUI offenders tended to have lower-level occupations than control drivers but higher-level occupations than alcoholics.

In a telephone survey of over 22,000 interviews, Smith and Remington (1989) found little relationship between drinking and driving and household income. Men age 55 and older with household incomes of $25,000 - $50,000 were significantly more likely to drink and drive than those with incomes below $15,000, however, the prevalence was generally low in this age group. Subsequently, employed persons reported similar rates of drinking and driving as unemployed persons in most age-gender groups studied.

Studies focusing on repeat offenders also found a high representation of blue-collar workers in the samples studied. Argeriou et al. (1986) found that unemployment increased and income levels of those employed decreased between male and female first offenders and repeat offenders. Unemployment rates for first offender males and females were 4.8 percent and 6.3 percent respectively while repeat offender unemployment rates were 11.4 percent for males and 11.7 percent for females. The proportion of male and female offenders with income levels above $20,000 were 24.4 percent and 8.9 percent respectively, while these proportions decreased to 15.8 percent and 4.1 percent respectively for repeat offenders.

Beerman et al, (1988) found that non-recidivists had the highest proportion of professional occupations (12.3 percent) and that twice as many individuals with four or more

DUI convictions were unemployed (45.2 percent). These authors concluded that as the number of DUI convictions increased, the rate of unemployment increased while the rate of participation in professional occupations decreased.

Miller, Whitney, and Washousky (1986) studied 461 convicted DUI offenders referred for alcoholism treatment. Fifty-two percent of the offenders were employed full time and of these, 41 percent were unskilled laborers and 40 percent were skilled laborers. Only 19 percent of the sample were white-collar workers.

In a study of nearly 2,500 convicted DUI offenders, Siegal (1985) evaluated recidivism rates over a two-year follow-up period from treatment. With regard to occupational status, the author found that 11.1 percent of the professional workers had a subsequent DUI arrest in this follow-up period as compared to 13.9 percent of the skilled workers and 58.3 percent of the unskilled workers.

Pisani (1986) studied over 3,900 DUI first offenders and repeat offenders. This study found that 17 percent of the offenders over the age of 19 were not working and this group contained the largest proportion of multiple offenders. An offender's occupation was also found to be related to the probability of committing multiple offenses. Blue-collar workers had the largest number of their group categorized as multiple offenders (34 percent). They were followed by

business owners, white collar workers, and professionals.

Drinking Variables.

Efforts to more clearly understand the interaction of alcohol consumption and impairment have focused on BAC data and differentiation between classifications of drinkers. Studies which influenced the adoption of state and federal laws relevant to operating a motor vehicle while impaired due to alcohol consumption have been discussed earlier. The extent to which alcohol consumption, measured by BAC, impacts on crash involvement is still not known. Efforts to determine the proportion of drinking drivers who are also alcoholic have ranged from 4 percent to 89 percent (Vingilis, 1983).

Blood Alcohol Concentration (BAC). FARS data collected between 1982 and 1988 show significant changes in drinking and driving behavior. In a sample of 15 states with good reporting records, the proportion of fatally injured drivers with BACs of .20 percent or greater declined by 21 percent during this time frame. Additionally, a 15 percent reduction was noted for drivers with BACs between .10 percent and .19 percent and a 7 percent reduction for low-range BACs (Fell, 1990). While these reductions are encouraging, FARS data has not shown a reduction in the average BAC of fatally injured drivers. This level has remained relatively stable at about .17 percent since 1980 (Fell, 1990).

According to 1988 FARS data, slightly more than 18

percent of drivers involved in fatal accidents had BACs of .20 percent or higher. The National Highway Traffic Safety Administration (1989) reported that 50 percent of the drinking drivers involved in fatal crashes have a BAC of .17 percent or higher, and that almost 80 percent have a BAC of at least .10 percent.

Beerman et al. (1988) studied prior driving records of 397 individuals arrested for DUI in 1983 as part of a 12-year follow-up project to determine characteristics of recidivism. In a comparison of the mean BACs for drivers by number of DUI offense, the authors found that first offenders had an average BAC of .15 percent, second and third offenders had an average BAC of .17 percent, and fourth offenders had an average BAC of .19 percent. A significant trend was also noted in the proportion of individuals who refused a test to determine a BAC level. Slightly more than 25 percent of the non-recidivists (25.6) refused the test as compared to 40.01 percent of second offenders, 41.2 percent of third offenders, and 62.9 percent of fourth offenders.

Roadside surveys continue to be a valuable source of information on drinking and driving behavior. While these surveys have normally been conducted during late-night weekend hours, the results suggest that perhaps 3 - 4 percent of drivers on the roads all around the United States during these hours are legally drunk (Jacobs, 1989).

Several problems emerge with regard to BAC data collection. Tests are not always conducted in all arrests or in all instances of alcohol related crashes. Delays in acquiring test samples, accuracy of testing equipment, and non-compliance by the suspected drunk driver suggest that BAC data should be viewed cautiously.

Alcoholism and the DUI offender. Numerous studies have been undertaken to determine the prevalence of alcoholics among the DUI population. In general, psychometric tests designed to identify alcoholism in the general population have been applied to DUI samples in an effort to predict recidivism. As noted earlier, the MMPI, MAST, and Mortimer-Filkins Questionnaire have all been evaluated and found to be less than accurate. In a comparison of alcoholics, convicted DUI offenders, and control group subjects, Selzer et al. (1977) found that the DUI group drank beer significantly more often and drank larger amounts of beer and distilled spirits than the control group, but drank distilled spirits less often and drank smaller amounts of wine, beer, and distilled spirits than the alcoholics, and in total amounts of alcoholic beverages they drank significantly less than the alcoholics, but significantly more than the control group. The DUI group drank more for tension relief and social relaxation than did men in the control group but less for both of these reasons than the alcoholics. The authors concluded that alcoholics

and drunken drivers were not a homogeneous group and should not be treated as such.

In a study of alcoholics and accident risk, Yates, Noyes, Petty, Brown, and Gorman (1987) found that the risk of personal injury motor vehicle accidents among alcoholics increased with the number of individual DSM-III alcohol abuse criteria present. In a sample of 260 male alcoholics presenting for inpatient treatment, 56 patients who reported personal injury accidents were compared to 131 patients who did not report accidents. Severity of alcoholism and the subsequent increasing loss of control over drinking was found to contribute to accident liability and more frequent or severe intoxication were factors associated with an increase in accident risk.

Vingilis and Mann (1986) cited research by Zylman indicating that alcoholics and DUI offenders are not the same group. Zylman was cited as disputing the strong, consistent relationship between alcoholism and high-risk drinking-driving behavior. He stated that although alcoholics as a group tend to be involved in more collisions, are arrested more often, and so forth, the same research also suggests that many alcoholics are not high risk drivers. Zylman (1974) also contended that not all alcoholics drive, not all alcoholics who do drive do so when impaired either some of the time or all of the time, and not all alcoholics

have long records of collision involvement and police contacts.

Jacobs (1989) cited similar research which supports the position that alcoholics and drunk drivers are separate populations. Referring to a 1970 study by Filkins, Clark, Rosenblatt, Carlson, Kerlan, and Manson for the U.S. Department of Transportation in which driving records of 1,247 hospitalized alcoholics who were known to drive were examined, this research found that only 17 percent had had a DUI charge or more than one driving conviction during the previous six years.

Efforts to label DUI offenders as alcoholics or alcohol abusers have not been successful due, in part, to the subjective nature of various test instruments, the reliance on self-reports, and a non-standard classification system. There seems to be little doubt, however, that many people arrested for DUI are heavy drinkers because it takes heavy drinking to reach a .10 BAC level. What remains unknown is how often do different types of drinkers drive while impaired, or whether different types of drinkers constitute different types of drunk drivers.

Driving Variables

The lack of a direct correlation between the drinking-driving event and a diagnosis of problem drinking or alcoholism has led researchers to evaluate the driving event

and the drinking event as separate factors. In a study of 124 high-risk drivers, Scoles et al. (1984) found that nearly 50 percent of this group had alcohol problems, however, the others did not. Donovan et al. (1985) found differences between DUI offenders and high-risk drivers in driving related attitudes and demographic characteristics, but noted the two groups were similar in hostility ratings as a personality trait.

Perrine et al. (1988) found that the convicted DUI offender represented a combination of the traits of problem (negligent) drivers, alcohol-involved accident drivers, and alcoholics, plus a substantial amount of unique DUI offender characteristics. Such findings validate other studies which suggest that many high-risk driving behaviors are interrelated (Evans, Wasielewski, and Von Buseck, 1982; and Jonah, 1986). Wilson and Jonah (1988) have proposed that a subgroup of impaired drivers of unknown size exhibits a high-risk behavioral syndrome such that impaired driving is but one high-risk behavior displayed. Mayhew, Donelson, Beirness, and Simpson (1986) suggest that some drivers engage in risk-taking behaviors as a general driving attitude and continue this behavior when drinking. The authors conclude that alcohol consumption, therefore, results from the individuals' tendency to take risks rather than a cause of the risk being taken.

Several recent studies have focused on the decision

making process that individuals use prior to engaging in the drinking-driving event. Thurman (1986) studied individual-level data of 95 college students' responses to opportunities to drink and drive. The author found that perceived level of impairment, distance to be driven, weather conditions, time of day and availability of driving alternatives had significant effects on the intentions of college students to drink and drive. Additionally, Thurman argued that the decision to drink and drive was made in advance of alcohol consumption in many cases offsetting judgment error produced by the effects of alcohol on the brain. Rosenberg (1988) interviewed male and female volunteers who were drinking on a regular basis but had not been convicted of DUI. The focus of this study was to record the reasons for not driving after drinking, and to report strategies individuals used to avoid detection or arrest when driving after drinking. The most commonly reported reasons for not driving after drinking were: (a) lack of opportunity, (b) stayed at home, (c) found alternate transportation, (d) increased self-awareness of intoxication, (e) walked to drinking location, and (f) fear of arrest. The most frequently reported types of reasons for driving after drinking were (a) lack of perceived intoxication, (b) perceived need or desire to go home or to some other location, (c) geographical convenience, and (d) confidence in driving ability. Efforts to avoid detection included more cautious

driving behavior, enhanced concentration and awareness, and self-talk.

Mannering et al. (1987) found four factors which influenced the decision to drive after drinking. These factors were level of enforcement of DUI laws in the particular area, accident exposure, degree of intoxication, and drinking-driving attitudes. The authors concluded that altering individual preferences was likely to be the most effective means of reducing the probability of driving after drinking.

Drinking location was also the focus of a study conducted by Snow and Cunningham (1985) in which they found that younger DUI offenders tend to drink in a variety of away-from-home locations, but after age 25 the frequency of drinking in all types of places except one's own home decreases, and the home emerges as the most important drinking location for older offenders. Snow and Anderson (1987) suggest that, for some people, driving after drinking may simply reflect a need or desire to move from one location to another.

Vingilis (1983) cited several studies which suggested that driving behaviors of alcoholics, convicted DUI offenders, and control group drivers from the general population were significantly different. The author indicated that, while the alcoholics had a worse driving history than the control group members, most studies reported that the drinking-driver

offenders had a poorer record than either the alcoholics or the control group drivers. The drinking-driver offenders seemed to have more overall traffic citations, more moving violations, more collisions, and more suspended or revoked licenses than either the alcoholics or the control group drivers.

FARS data collected over the past fifteen years indicated that "time of day" and "day of week" data is significant in understanding the DUI problem. FARS data, public records, and roadside research survey results indicate that an individual's previous driving record is significant in predicting recidivism in the DUI offender population.

Time of day. Studies of alcohol consumption indicate that people drink more in the evenings and on weekends. Therefore, it is only natural to expect that alcohol-related crashes will occur more frequently at those times. Most non-alcohol-related fatalities occur in the late afternoon and in the early evening while most alcohol-related fatalities occur around midnight (Voas, 1985). Jones and Joscelyn (1978) suggest that darkness represents a poor driving condition which contributes to the high rate of alcohol-related fatalities at night. Focusing on youth fatalities, Gusfield (1985) suggests that young people, who have limited driving experience, drive more frequently at night and enhance the risk factor of fatalities with alcohol consumption.

In a study of nearly 400 drivers arrested in Benton County, Oregon in 1983, Beerman, et al. (1988) found that 62 percent of the drivers were arrested between the hours of 10:01 p.m. and 5:59 a.m.. The lowest percentage of arrests (1.3 percent) took place during the midday hours. The authors also found that drivers with three or more arrests for DUI had significantly more arrests during early morning hours and afternoon hours, while nonrecidivists had notably fewer arrests than expected during these times.

Day of week. Evaluation of FARS data and arrest records formed the basis of assessment of driving risk according to day of week. The alcohol-related crash rate is higher on weekend nights than on weekday nights, but the difference is not as great as for nighttime versus daytime accidents (Sweeney et al., 1988). Beerman et al. (1988) found that drivers arrested on weekdays tended to have more than three DUI arrests, while the majority of drivers (88.8 percent) were arrested on the weekend. The authors concluded that day of arrest appeared to be a discriminating factor among the 397 drinking drivers.

Previous driving record. DUI offenders have statistically deviant driver records before their DUI arrest (Perrine et al., 1988). Nonsuspended DUI offenders accumulate worse non-DUI driving records following conviction for a first or repeat DUI offense (Hissong and Howland, 1990; Perrine et

al., 1988). Donelson, Beirness, and Mayhew (cited in Perrine et al., 1988) have suggested that the convicted DUI population contains drivers whose drinking is subordinate to a larger problem of high-risk negligent driving which exists independent of alcohol use. Negligent driving behavior acts to attract the attention of enforcement officials which ultimately results in arrest.

Wendling and Kolody (1982) evaluated the Mortimer-Filkins Test as a predictor of DUI recidivism. On the basis of their data, the authors concluded that there was no apparent reason, with exception of general arrest history, to search beyond driving record variables for prediction of recidivism. Past driving behavior was found to be clearly the best predictor of future driving behavior. Steer, Scoles, and Fine (1983) found that of 99 repeat offenders arrested in Philadelphia during the first nine months of 1981, 75.8 percent had confirmed prior arrests for alcohol-related offenses and 31.3 percent did not have valid drivers licenses. In an evaluation of the 1980 Washington DUI law, Salzberg and Paulsrude (1984) found that the probability of alcohol-related offenses increased as a function of the number or prior alcohol offenses.

In their study of recidivism among 389 DUI offenders in Massachusetts, McCarty and Argeriou (1988) found that 92 percent had one or more prior arrests for DUI during their lifetime. Beerman, et al. (1988) found that drivers with four

or more DUI offenses had the fewest number of moving violations in comparison to groups of offenders with various numbers of drinking and driving offenses. Drivers with two DUI offenses had the largest number of moving violations. Of the 397 drivers participating in this study, 13.9 percent had prior convictions for reckless driving, 48.6 percent had one or more citations for speeding violations, and driving with suspended or revoked licenses increased as number of DUI offenses increased.

Legal Sanctions and DUI Offenders

Countermeasures to address the DUI problem can be divided into two categories; those that attempt to influence the behavior of all drivers whether or not they have committed an offense, and those that are applied to those arrested for the DUI offense.

General Deterrence

General deterrence activities attempt to influence the drinking and driving behavior among the population in general. The impact of these activities is measured among the population not arrested for DUI and generally includes data from roadside research surveys, sobriety checkpoints, and telephone surveys. Effects of general deterrence activities is measured in driver BAC levels at survey points and rate of crashes in which at least one driver had been drinking.

General deterrence focuses on the publics' perception of probability of arrest for drinking and driving. Probability of arrest studies have ranged from 1 in 200 (Beitel, Sharp, and Glauz, 1975) to 1 in 2000 (Voas and Lacey, 1990). Ross (1981) suggests that the greater the perceived likelihood of apprehension, prosecution, conviction, and punishment, the greater will be the effect of the legal threat. Ross (1984) offers two possible approaches to deterrence: increased certainty of apprehension and increased severity of penalties. He concludes that increased severity has little effect and increased certainty has positive short-term effects but no long-term effects. The major factor influencing increasing certainty of apprehension is financial support for enforcement.

Increased visibility of DUI enforcement efforts require increased public expenditures at several levels. Increased visibility results in a direct increase in manhours. Increased visibility has traditionally resulted in increased apprehension of offenders which significantly hampers an already overburdened criminal justice system.

Increasing penalties for DUI offenses to include incarceration has had mixed results. Studies of the impact of short-term incarceration (2 - 4 days) for first offenders have found some reductions in the number of injurious accidents and in the number of traffic fatalities (Falkowski, 1984; Ross,

1985). Coupled with these reductions, however, have been decreases in guilty pleas, increases in jury trials, and decreases in conviction rates.

License suspension is both a general deterrence and a specific deterrence. In states where a driver's license can be suspended administratively before court disposition, the action is considered a general deterrence. In a survey of drivers in Minnesota, Lowery (cited in Sweeney et al., 1988) found that twice as many participants considered license revocation as more severe than jail. Administrative license suspension increases certainty of penalty for the DUI driver.

Increased patrols and sobriety checkpoints increase the risk of apprehension and increase the public's perception that drunk drivers will be arrested. The impact of these measures, however, decays over time as intensity of patrols decrease and sobriety checkpoints are relegated to media attention around holiday events.

General deterrence activities appear to have short-term effects and must raise the public's perception of apprehension and penalty to a level that influences drinking and driving decision making. Noting the diversity of the DUI offender population, it is plausible to consider that general deterrence activities impact on subgroups of this population. In particular, general measures deter drivers with few or no alcohol-related problems, who pose no real crash risk (Sweeney

et al., 1988).

Special Deterrence

Special deterrence activities focus on preventing recidivism and involve countermeasures imposed on the offender. Traditional measures have included Driving Safety School, fines, incarceration, probation, license suspension, and alcohol treatment. Evaluation of these sanctions have attempted to measure rearrest rates and crash rates. Nichols (1990) provides a comprehensive review of studies which compare treatment, defined as therapeutic intervention, and legal sanctions applied to the DUI offender. His conclusions suggest that educational programs may reduce DUI rearrest rates for both first offenders and those diagnosed as nonproblem drinkers. Educational programs, however, have little or no value for repeat offenders or for problem drinkers. First offenders and nonproblem drinkers also respond to higher insurance premiums, social embarrassment, and legal fees whereas these options appear to have little impact on the repeat offender.

Several studies attempted to measure the impact of incarceration on recidivism. There is no evidence to suggest that incarceration reduces recidivism in the DUI offender population. Tashima and Peck (cited in Nichols, 1990) reported worse subsequent conviction and crash records for first offenders receiving jail sentences as compared to four

other types of legal sanctions. Salzberg and Paulsrude (1984) found higher subsequent crash records and convictions for DUI offenders sentenced to mandatory jail sentences in Washington State when compared to individuals arrested for DUI before the stricter laws were in place. Voas (1986) found little evidence of any reduction in recidivism resulting from jail or prison sentences in the literature relevant to the United States or foreign research.

Wheeler and Hissong (1988) compared survival rates of DUI offenders who were given probation, ordered to pay a fine, or mandated to serve jail sentences. In a three year study, the authors found no significant differences in recidivism rates between the sentencing sanctions. These results seemed consistent with a study comparing probation supervision and educational and therapy approaches. In this study, Holden (1983) found no significant difference in rearrest rates of probationers who participated in educational therapy programs and those that were not given such sanctions. Noting the increase of individuals monitored by the criminal justice system over the past ten years, such burdens are felt at all levels of the system including probation and parole offices. Time does not permit full monitoring of adjudicated cases. Levied fines are also collected on time schedules thus reducing any immediate financial burden on the offender.

License suspension has been found to be the most

effective sanction for reducing accident and drunk driving
frequency (Peck, Sadler, and Perrine, 1985). One important
issue affecting evaluation of licensing sanctions is that many
offenders continue to drive while their licenses are suspended
or revoked. Williams, Hagen, and McConnell (1984) found that
65 percent of individuals who had their licenses suspended
drove during the suspension but that 65 percent of those who
drove during suspension displayed reduced and more careful
driving behavior. Other studies (Peck et al., 1985; and Ross
and Gonzales, 1988) support this finding and have found that
crash and violations records during suspension or revocation
are significantly better than those of nonsuspended drivers.
Lower crash and violation rates also appear to extend beyond
the duration of the licensing action.

Intervention Strategies and DUI Offenders

A review of the literature suggests that drunk driving is
a multidimensional problem and can best be addressed through
efforts which focus on the individual rather than the event.
Public pressure has influenced legislatures to enact laws that
focus on preventing future occurrences of drunk driving rather
than focusing on individual factors which influence an
individual's decision to drink and drive. The failure to take
individual differences into account in developing intervention
strategies has resulted in a standardized application of legal
sanctions which have proven to be inconsistent both in

application and outcome.

The DUI offender population is clearly heterogeneous. Therefore, application of one specific strategy to influence behavior is going to impact on only a segment of the total population. Such a situation exists with individuals who do not have a problem with alcohol or are moderate drinkers. Research has suggested that these individuals respond to social sanctions and general deterrence activities. The problem drinker as well as the high-risk driver who drinks does not respond to these measures.

The diversity that exists within the DUI offender population has come to the forefront in attempting to determine which intervention strategies work with which offenders. Mann et al. (1983) evaluated 34 experimental; and quasi-experimental studies conducted between 1976 and 1982. Changes in traffic safety, knowledge/attitude, and treatment/lifestyle were the measured results compared to various intervention programs. Noting the inconsistency in results among the studies, the authors concluded that the assessment of DUI offenders required further study and suggested that client-treatment matching should become a research priority.

Wells-Parker, Anderson, McMillen and Landrum (1989) studied the interaction of long-term and short-term intervention strategies with offender characteristics

including age, race, education, and alcohol severity. Data was collected from records of 3,425 offenders in Mississippi in a 9-year follow-up study. The authors were able to estimate effectiveness of intervention strategies based on the variables considered.

Wells-Parker, Landrum, and Topping (1990) have provided an extensive discussion of trends in the criminal justice system and in the alcohol treatment field toward a differential assessment of the offender and referral to interventions based on individual offender characteristics and needs. The authors conclude that assessments of interactions between demographic characteristics and intervention strategies are preliminary and in need of replication. They also suggest that the matching hypothesis does provide some promising directions for understanding the effects of various interventions and for improving intervention strategies.

Therapeutic intervention has long been considered an optional strategy available to the criminal justice system. Studies which focus on treatment efficiency utilizing a DUI offender population many times fail to take into consideration other sanctions applied or suspended in lieu of treatment. Inconsistency in legal sanctions can influence the results of treatment outcome studies and must be considered in the final analysis.

While some researchers have chosen to evaluate the

interaction of legal intervention strategies and DUI offender characteristics, several recent studies have attempted to develop therapy intervention models focusing primarily on the interaction of the offender with their environment. Table 4 shows five therapeutic interventions which have been developed around the focus of an individual's behavior rather than the drinking and driving event. All five interventions include an emphasis on cognitive and affective components of behavior and suggest that different environmental factors influence frequency and intensity of drinking. One aspect of behavior which is missing from all of these intervention strategies is a determination of specific activity which enhances or deters the general drinking behavior of the individual in a specific situation.

The TFA Concept

Intervention strategies designed to address drunk driving have primarily focused on education regarding the legal statutes of particular states relating to the DUI offense, the biophysical impact of alcohol on the body especially with regard to gross motor skills and judgment, and an introduction into alcohol abuse treatment. This "one-size-fits-all" approach suggests a certain homogeneity of client personality characteristics and responses to drinking situations. In general, there is no evidence to suggest that knowing data

Table 4

Interactional models of DUI interventions

Citation	Year	Intervention
Rosenberg, Brian and Allf	1985	Teaching of cognitive, behavioral and affective coping skills to prevent situations in which the individual is likely to drive while impaired.
Appleton, Barkley, and Katz	1986	Identify process of getting into trouble by comparing thoughts, feelings, and behaviors in group and thoughts, feelings and behaviors outside of group.
Rosenberg and Brian	1986	Teaching of coping skills to be applied to high-risk situations. Focuses on cognitive and affective domains.

Table 4 continued

Interactional models of DUI interventions

Citation	Year	Intervention
Jessor	1987	Problem behavior results from the interaction of the individual's perceived environmental system and the individual's personality system. Focuses on cognitive domain.
Vingilis and Mann	1986	Intervention based on the identification of high-risk characteristics resulting from analysis of person/situation interaction.

concerning the danger and consequences of drinking and driving impacts on an individual's decision to drink and drive.

Concurrent with the emphasis on drunk driving in the past twenty years has been the ongoing development of various cognitive and behavioral therapies. Emerging out of the clinic and primarily based on the stimulus-response behavioral psychology of Pavlov, Hull, and Skinner, cognitive behavioral theory has focused on intermediary cognitions such as perceptions, expectations, and beliefs (Smith, 1990). Freeman and Greenwood (1987) indicate that the goal of the therapist is to help the patient uncover their dysfunctional and irrational thinking, reality testing their thinking and behavior, and building more adaptive and functional techniques for responding both interpersonally and intrapersonally.

The foundations for cognitive-behavioral interventions are grounded in a multi-variable approach to defining behavior. Ellis (cited in Greiger and Boyd, 1980) suggests that people practically never think, emote, or behave in a pure or monolithic way. Instead, when they "emote," they also think and act; when they "act," they also think and emote; and when they "think," they also emote and act. Often individuals with alcohol problems know, in an intellectual way, that they ought to change in order to stop experiencing their difficulties, but for rather complex reasons they are not able to do so. Intervention strategies, therefore, must encourage

individuals to identify dysfunctional thoughts and, through various techniques and experiences, help them change their thoughts, feelings, and actions as they relate not only to alcohol use but also as they relate to the problems of everyday living (Ellis, McInerney, DiGuiseppe, and Yeager, 1988). Glantz (1987) identifies four general psychologically related areas of concern and foci for intervention. These include 1) the drinking behavior, 2) the concurrent psychopathology which may be antecedent, concomitant, facilitative, and/or consequent to the drinking, 3) coping abilities and adaptive cognitive conceptualization skills, and 4) the environment in which the patient lives.

Three variables emerge from these theories as key components to understanding drinking behavior. In various combinations, these theories, as well as other major counseling theories, identify thoughts, feelings, and actions as critical behavior elements. Counselors have long been faced with the problem of determining which counseling strategy will work with which patient in which situation. One method to address this problem is the TFA concept.

The Use of TFA Systems (tm) in Intervening in DUI

The DUI offense remains a criminal offense reflective of inappropriate driving skills coupled with excessive alcohol consumption. The use of the TFA model provides the opportunity for the DUI event to be defined in behavioral

terms. Individual differences relative to the DUI event can be identified and described in unique behavior patterns representing the interaction of the person's thoughts, feelings, and actions in this specific situation.

Hutchins (1979) introduced the TFA model as a method to classify counseling theories into three major strategy orientations. The cognitive theories included works of Ellis, Beck, Maultsby, and Meichenbaum. Those counseling theories focusing on the affective domain included works by Rogers, Perls, and Maslow. The psychomotor domain was represented by works of Skinner, Bandura, Wolpe, Lazarus, Krumboltz, and Thoreson (Hutchins and Cole, 1992). From these early beginnings, the TFA model has expanded to include the TFA Systems (tm), a method to explore counselor-client relationships, interactions between people, and behavior patterns relative to specific situations (Hutchins, 1984a; Hutchins and Vogler, 1988). It is the TFA model, with the focus on behavior as an interaction of thoughts, feelings, and actions, which appears to be useful in understanding the circumstances contributing to repeat offense DUI. An operational definition of each behavior component follows.

Thinking. The cognitive component of the TFA model includes an individuals' thoughts related to information about people, data, or things. These thoughts can be positive, negative, or neutral (Hutchins, 1984a).

Hypothetically, at the time a decision is made to engage in drinking behavior, a convicted first offender might consider the consequences of a second DUI offense, might plan alternatives to driving in the event they feel too intoxicated to operate a motor vehicle, or might justify drinking based on legal age, circumstances, or reward.

Feeling. The affective component of the TFA model includes an individuals' feelings, sensations, or emotions about people, situations, and events. These feelings have a broad range and can be positive, negative, or neutral (Hutchins, 1984a).

Some DUI repeat offenders might engage in drinking behavior in an effort to change the mood they are currently experiencing. Examples of this include individuals who drink to relieve negative feelings of anger, resentments, inadequacies, or depression, or those that attempt to enhance feelings of closeness, gaiety, or excitement.

Acting. The acting (psychomotor) domain of the TFA model refers to what a person does, or how one responds to a situation, most of which can be observed. Actions can be positive, negative, or neutral (Hutchins, 1984a).

The obvious action which can be observed with this population is consuming alcohol. This action might, however, be a result of a decision of the individual to be in an environment such as shooting pool, playing darts, or attending

a social event at which the probability of consuming alcohol would be high. The association of particular events and an environment to drinking can be clearly observed in television advertising strategies used for promotion of alcoholic beverages as well as in movies and television productions.

The application of the TFA model has been demonstrated in three recent studies (Clow, 1989; Tieman, 1991, and Bundy, 1991). These studies, discussed in more detail in Chapter Four, have found the TFA System (tm) to be useful in assessing behavior in specific situations and in enhancing recall of events in these situations.

The Interaction of the TFA Model and the DUI Offense

The TFA model was selected as means to identify specific thoughts, feelings, and actions contributing to a decision to engage in drinking behavior culminating in an arrest for a second DUI arrest. This situation specific model provides for the comparison of thoughts, feelings, and actions relative to other decision points regarding engaging in alcohol consumption.

Hutchins (1984a) defined behavior as the integration of an individual's thoughts (T), feelings (F), and actions (A) relevant to a specific situation or event. Conceptualizing behavior in this manner provides a counselor the opportunity to select intervention strategies based on a measure of the interaction of these components relative to a specific problem.

The use of TFA Systems (tm) as a treatment model for DUI repeat offenders seems appropriate. DUI offenders are not a homogeneous group and not all DUI events are the same. The diversity of both the population and event suggests that an eclectic approach to intervention would be more realistic than a single approach method.

Summary

In this chapter, literature pertaining to some of the research questions of the study was reviewed. It revealed that further research is needed to differentiate the characteristics of DUI nonproblematic first offenders from those of the multiple offenders. It was shown that attempts to encapsulate personality characteristics of repeat offenders into a single composite list has resulted in a differentiation of those DUI offenders who are problem drinkers and also drive, and those problem drivers who drink.

This review also revealed that the DUI offender population and the alcoholic population are not the same, however, some overlap does occur. The DUI offender population is heterogeneous which suggests that certain intervention strategies will have a positive impact on certain subgroups. In general, DUI educational programs, licensing restrictions, fines, and incarceration impact on those individuals who respond to social sanctions, however, these efforts have a limited impact on the behavior of the repeat offender.

Probability of apprehension and surety of consequences are two factors which have shown promise in research studies but are very costly to maintain.

Review of recent intervention strategies suggested that a more comprehensive approach be taken in the assessment and treatment of the DUI repeat offender. In particular, the search continues for an effective method to match intervention strategies with client characteristics in the hopes of improving treatment outcomes. To date, the interactional intervention models have focused primarily on the cognitive and affective domains of behavior. The TFA concept provides a method to assess behavior, both qualitatively and quantitatively, relative to specific situations and defines behavior in the context of an individual's specific thoughts, feelings, and actions.

CHAPTER THREE

Methodology

The purpose of this study was to determine the effect of incarceration on behavior patterns of DUI second offenders. This chapter includes a description of the research design, selection of participants, instrumentation, data collection, and data analysis.

Research Design

This twenty-two week descriptive study utilized a structured interview format as the major methodological tool for data collection. The Interview Sheet for DUI Repeat Offenders Study (Appendix A) was used to gather information in the following categories:

A.   Demographic Information

B.   Drinking Variables

C.   Driving Variables

D.   Significant observable information about drinking attitudes, and DUI intervention recommendations.

Data collection extended over three interview sessions. Table 5 represents the time schedules for each interview and the interview sequence used during each session. All interviews were recorded on audio tape which allowed the researcher to review the data collected for accuracy in recording.

95.

Table 5

Data collection format and interview procedures

Interview Number	Interview Procedure

First

1. Review selection criteria

2. Complete Participant Agreement Form

3. Complete Consent to Redisclose Information Form

4. Begin completing interview guide

   a. Demographic information

   b. Retrospective study

      i. TFA Clinical Assessment - 8 hours before decision to drink

      ii. TFA Clinical Assessment - 4 hours before decision to drink

      iii. TFA Clinical Assessment - 1 hour before decision to drink

      iv. Film - Six drinking vignettes

      v. TFA Clinical Assessment - At the time of decision about engaging in drinking behavior

      vi. HBI - At the time of decision about engaging in drinking behavior

   c. TFA Clinical Assessment - most recent conscious decision about consumption of alcohol or related pre-incarceration drinking situation

Table 5 continued

Data collection format and interview procedures

Interview Number		Interview Procedure
Second	5.	Continue completing interview guide
	a.	Review DSM-III-R criteria statements for diagnosis of alcohol dependence
	b.	TFA Clinical Assessment - Most recent conscious decision about alcohol consumption or related pre-incarceration drinking situation
Third	6.	Complete interview guide
	a.	TFA Clinical Assessment - Most recent conscious decision about alcohol consumption or related pre-incarceration drinking situation
	b.	Projection of effective prevention or intervention techniques to influence drinking and driving behavior
	c.	HBI - Most recent conscious decision about alcohol consumption or related post-incarceration drinking situation

The TFA Clinical Interview was selected as a method to assess specific thinking, feeling, and acting characteristics relevant to specific decision making times regarding engaging in drinking behavior. Participants were asked to describe specific thoughts, feelings, and actions relevant to a specific situation and then asked to complete the TFA triad on the TFA triangle. The TFA Clinical Interview was included as part of the interview guide used in the study.

Selection Criteria

The population selected for this study was male DUI second offenders incarcerated in rural south-central Pennsylvania. All participants were between the ages of 21 - 45 and none were involved in a fatality causing incident as a result of this arrest for DUI. All individuals volunteered to participate in the study and had not received any therapy since their arrest for their second DUI offense.

Recruitment of Participants

All male DUI second offenders incarcerated at the selected prison and who met the selection criteria were potential candidates for the study. Through the coordinated efforts of the researcher, the county DUI coordinator, and the Director of Therapy at the prison, the researcher was given the names of inmates who qualified for inclusion in the study and times when these individuals would be available for

interviews. Each potential study participant was interviewed by the researcher to ensure the selection criteria was met prior to discussing the study. After determining that the individual met the criteria, the researcher discussed the project and solicited voluntary participation in the project. Individuals were not ordered to participate in the study.

Sample

Of the twenty-three eligible candidates, twenty participated in the study. All participants acknowledged the voluntary nature of the study and signed forms granting the researcher access to their files in the probation department. Eleven of the participants completed all three phases of the interview process.

An additional six individuals completed the first two interviews. Of these, two had the opportunity to complete a third interview but did not follow through. The interview process was altered for four participants who could not complete a third interview due to study time constraints. During the second interview, these individuals were asked to complete the final section of the interview guide focusing on which intervention strategies might have been successful in preventing drinking and driving.

Three individuals completed only the first interview due to study time constraints. In addition to the standard data collected in the initial interview for all participants, these

three individuals were asked to respond to the DSM-III-R criteria and also to complete the final section of the interview guide focusing on which intervention strategies might have been successful in preventing drinking and driving. Altering the interview process for these three participants allowed for maximum data collection.

Instrumentation

Interview Sheet

A structured interview was developed for this study. Influenced by research findings and variables associated with drunk driving, The Interview Sheet for DUI Repeat Offenders Study was developed to enhance the systematic collection of data. Contained in this formal interview sheet was the list of nine criteria found in the DSM-III-R as clinical indicators of alcoholism. Both categorical and open-ended questions were used to maximize descriptive data collection. All questions used in the interview were supported by relevant research findings (Appendix B). Each interview sheet was assigned a participant code number to assure confidential handling of the data as well as to help prevent researcher bias in the analysis of the responses.

The interview sheet was divided into the following five sections:

Demographic Information. Age, marital status, educational level of achievement, and socioeconomic status

were recorded in this section. Qualitative data regarding the participant's assessment of marital, educational, and vocational satisfaction was also obtained.

Drinking Variables. Individual responses to the nine DSM-III-R criteria for alcoholism diagnosis and the BAC levels recorded during the participants' first and second DUI arrest were examined. Such information provided insight into each participant's perception of their drinking problem and, to some degree, their tolerance to drinking.

Attitudes about driving while drinking were examined as part of this study. Each participant was asked to determine what they considered to be the probability of getting caught for a second DUI offense after being arrested for their first offense. Participants were also asked if they considered the consequences of a second DUI arrest prior to drinking, prior to driving after having been drinking, and while they were operating a motor vehicle under the influence of alcohol.

Driving Variables. Date, day of week, and time of day information was obtained for both DUI events for each participant. This information, as well as the legal sanction imposed on each participant after their first DUI conviction, was contained in official records located in the county probation department.

Previous driving record including moving traffic violations were requested as a self-report from each

participant. This information was not available from any other immediate source.

TFA Triads. Behavior patterns of male DUI second offenders were examined using the TFA triangle. During the interview process, TFA triads were generated which reflected the interaction of thoughts, feelings, and actions of the offender in the following intervals:

A. Eight hours before they made a decision to drink which led to their second DUI arrest,

B. Four hours before they made a decision to drink which led to their second DUI arrest,

C. One hour before they made a decision to drink which led to their second DUI arrest,

D. At a specific time the individual made the decision to drink which led to their second DUI arrest,

E. Six to nine days after they were incarcerated for their second DUI arrest relevant to their most recent decision about drinking,

F. Twenty to twenty-three days after they were incarcerated for their second DUI arrest relevant to their most recent decision about drinking, and,

G. Thirty days after their parole from prison relevant to their most recent decision about

drinking.

The TFA triad data was used to compare behavior patterns at these seven times as well as provide insight into the impact of incarceration on this group of DUI second offenders.

Interview Observations and Related Information. Participants were asked to provide their assessment of interventions which they believed might have been successful in preventing drinking and driving behavior which led to both of their DUI arrests as well as what current strategies would keep a second offender from drinking and driving again. This information provided some insight into the influence of current prevention and intervention strategies on changing behavior especially with regard to drunk driving. These comments also contributed to the overall assessment of the impact of incarceration on the attitudes of the participants toward drinking and driving.

Hutchins Behavior Inventory (HBI)

The HBI is a computer scored instrument consisting of 75 matched pairs of words. These matched pairs include all possible combinations of five words associated with thinking, five words associated with feeling, and five words associated with acting. When scored, the HBI provides a graphic display of characteristic behavior relative to a specific situation including relative emphasis the individual placed on the behavior component of thoughts, feelings, and actions.

Several studies have been conducted testing the reliability and validity of the HBI in assessing behavior. Walker (1984), using the Cronbach's Coefficient Alpha method to study the internal consistency of T, F, and A frequency scores on a slightly revised HBI, found the HBI to possess a high degree of internal reliability. The T, F, and A frequency scores ranged from 0.78 to 0.98 with only four of the twelve reliability coefficients falling below 0.90.

Wheeler (1986), studying test-retest reliability of the HBI, concluded the bipolar scales were reliable measures of the TFA components. Participants in this study included 245 male and 244 female students enrolled in undergraduate psychology classes. The 7-day test-retest reliability coefficients ranged from 0.80 to 0.86 for bipolar scales. In studying construct validity, Wheeler compared two forms of the HBI to the Myers-Briggs Type Indicator and the Strong Campbell Interest inventory and concluded that the HBI measured the behavior components of thought, feelings, and actions.

Mueller, Hutchins, and Vogler (1990) studied convergent construct validity and common-factor reliability of the HBI when assessing thinking, feeling and acting orientations of residence-hall counselors. Reliability estimates for the HBI bipolar scores ranged from .50 to 0.94. The authors demonstrated good construct validity with this study

population and also concluded that the reliability estimates were sufficiently high to state that, overall, the HBI provided reliable results for the TFA assessment of this group.

The HBI was administered during the first and third interview in this study of DUI repeat offenders. A list of the words contained in the HBI and the definitions of those words was made available to each participant as they completed the inventory (Appendix C). The definition list provided for a common understanding among the study participants of all words used in the HBI.

Study Implementation

Initial Interview

During the initial contact with study participants, the Informed Consent (Appendix D) and the Consent to Release Information (Appendix E) were completed. The initial interview included a retrospective study of the events leading to the participant's second DUI arrest and an assessment of behavior relevant to their most recent decision about engaging in drinking behavior. This interview occurred six to nine days after the participant was incarcerated and lasted an average of seventy-eight minutes.

Retrospective Study. One significant aspect of this study focused on the events which led to each participants' decision to engage in drinking behavior which ultimately

resulted in their arrest for a second DUI offense. Participants identified a specific time when they made the decision about engaging in drinking which led to this offense. The following pre-decision intervals were selected for evaluation in this study:

A.   Eight hours before the decision was made.

B.   Four hours before the decision was made.

C.   One hour before the decision was made.

A TFA Clinical Interview was completed for each participant at each interval.

The final segment of the retrospective study focused on the participants' behavior at the time they made the decision about drinking which led to their arrest. In an effort to enhance recall, participants were shown a forty minute film depicting six drinking vignettes and asked to describe their behavior in terms of specific thoughts, feelings, and actions relevant to the specific time they had identified as a decision making point. An HBI was administered after the TFA Clinical Interview was completed. The HBI also focused on behavior relevant to the identified decision making point.

Records Review

Between the first and second interview, the researcher visited the County Probation Department to review the confidential files of each of the participants. Information

regarding BAC levels, arrest dates and times, probation termination dates, and sentencing dates were extracted from the file.

Second Interview

The second interview lasted an average of twenty-two minutes and was conducted approximately two weeks after the initial interview between days twenty and twenty-three after the participants' incarceration. During this interview the DSM-III-R criteria was reviewed to determine which of the nine statements leading to a diagnosis of alcohol dependence were applicable to the participant's general drinking behavior.

Participants were also asked to describe their thoughts, feelings, and actions relevant to one of the following situations:

     A.   The most recent time, within the previous twenty-four hours, they consciously made a decision about alcohol consumption, or,

     B.   A time within the previous twenty-four hours when, if not incarcerated, they would have been drinking.

Final Interview

The final interview was conducted in the participant's home thirty days after he was paroled from jail. Participants were asked to describe their thoughts, feelings, and actions relevant to their most recent decision regarding alcohol

consumption. Individuals who could not identify any recent conscious thoughts about drinking were asked to consider a recent time or situation which, prior to their incarceration, would have likely resulted in their consuming alcohol. Participants were also asked to identify DUI prevention or intervention strategies which may have influenced, or will influence, their drinking and driving behavior. This interview lasted an average of thirty-eight minutes.

TFA Concept

Behavior assessments were made during all three interview stages. The TFA triangle was used to assess behavior at the designated intervals in the retrospective study and during days six and nine after incarceration, during days twenty and twenty-three after incarceration, and at a time thirty days after parole from jail. While the TFA concept is still emerging as an integrated counseling theory, the successful application of the theory as a means to systematically assess behavior in specific situations has been documented in three recent studies.

Clow (1989) conducted an action study using court referred male spouse abusers in pre-violence situations. The results of this study indicated the applicability of the TFA Systems (tm) approach to this population and supported the use of a TFA Clinical Assessment in gathering of pre and post treatment data.

Tieman (1991) applied the TFA Systems (tm) model to a population of adult females molested as children.   In a pretest and posttest format, the Hutchins Behavior Inventory and a TFA Self-Assessment were compared for similarities in score.   The results suggested a strong relationship between HBI scores and TFA Self-Assessment scores.

Bundy (1991) used TFA Systems (tm) to identify specific behaviors of pregnant teenagers at particular pre and post partum time frames. Bundy's study included the use of the TFA Clinical Assessment in a sequential time dimension format and supported the significance of recall in establishing past behavior patterns.

TFA Clinical Assessment.   Developed as part of the TFA Systems (tm), the TFA Clinical Assessment was a tool used to describe an individual's behavior in terms of specific thoughts, feelings, and actions in specific situations. While looking at the TFA triangle, participants were asked to respond to the following questions relevant to the seven assessment times noted earlier in this chapter:

> A.   At this time, were you more Thinking (T), more Feeling (F), or in the middle?
>
> B.   At this time, were you more Feeling (F), more Acting (A), or in the middle.
>
> C.   At this time, were you more Thinking (T), more Acting (A), or in the middle.

The responses for each situation were recorded on the TFA Clinical Triangles form (Appendix F). The responses marked on each side of each triangle were connected to form a TFA triad, a graphic display of the interaction of an individual's thoughts, feelings, and actions in a specific situation.

The TFA Clinical Assessment was completed by having the participant list specific thoughts, feelings, and actions relevant to the specific situation under consideration. These responses were listed in the interview guide.

Data Analysis

Quantitative and qualitative data was collected and analyzed in this study. Descriptive statistics, including means, standard deviations, ranges, and frequency distributions were calculated for all continuous variables using Number Cruncher Statistical System (NCSS). T-tests were used to test the independence of means of BAC data collected.

Operationalizing TFA Triads. Each point of the TFA Triad represents a place on a bipolar scale of the TFA triangle. Therefore, each TFA triad includes one point on the Thinking-Feeling bipolar scale, one point on the Feeling-Acting scale, and one point on the Thinking-Acting scale.

Each point of the TFA triad was assigned a numerical value. Mid-point responses on each of the scales were given a 2-point value for each of the bipolar variables and were designated by a small letter t, f, or a. Responses

represented by a mark at the ends of the bipolar scales were given a 3-point value for the particular variable designated at that endpoint and were designated by a capital letter T, F, or A.

T, F, and A numeric values were calculated for each TFA triad by summing the thinking, feeling, and acting values at the respective points on each bipolar scale of the TFA triangle. An example of this transformation is shown in Figure 1.

Averages were calculated for summed T, F, and A numeric values at the various interview points. Changes in these averages were considered as behavior orientation changes.

Response Variables. A qualitative analysis was conducted to identify content parameters of change in responses. AskSam Data Management System was used to analyze this qualitative data.

Each interview tape was reviewed by the researcher for content and contextual analysis. Individual responses which seemed inappropriate for the categories in which they were placed were recorded. A panel of allied professionals reviewed these responses and ranked them in thinking, feeling, and acting categories. These particular responses were placed in categories determined by the panel. This panel included a licensed social worker, a certified social worker, two registered nurses, a licensed practical nurse, and a certified
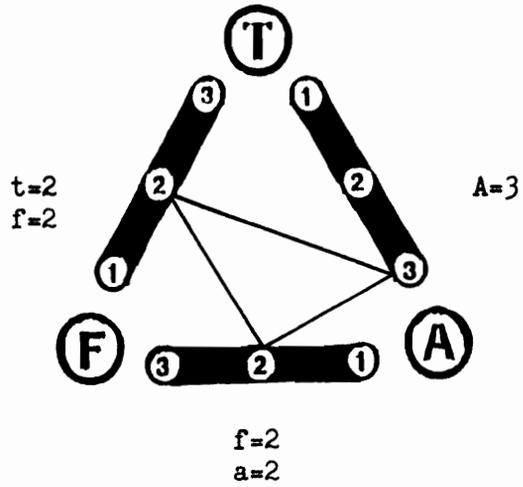
TFA Triad Score = A5 f4 t2

Figure 1. The scoring of the TFA Triad

addictions counselor in training.

Individual responses were interjected into the AskSam Data Management System. Twenty-one templates were created to compare thinking, feeling, and acting responses at the seven assessment times identified earlier in this chapter. A data dictionary containing key words and phrases used throughout the interview process was generated and analyzed for frequency of word count and meaning throughout the study. This data dictionary was used to answer Research Hypothesis One which stated there was no difference in behavior patterns of study DUI second offenders' thoughts, feelings, and actions at the time they decided to engage in drinking behavior leading to their second DUI arrest, at selected periods during their incarceration, and at a time thirty days after their parole from jail.

HBI Analysis. The HBI was administered twice during the interview process. Each administration coincided with a TFA Clinical Assessment focusing on the same decision point. The procedures outlined in the Manual for the Hutchins Behavior Inventory (Hutchins and Mueller, 1992) were used to convert HBI scores to the TFA nine-point triangle.

Results of the first HBI were compared to the second HBI to determine behavior changes. Both sets of HBI scores were also compared to the corresponding scores obtained by TFA Clinical Assessment to determine the interrelationship of

these two instruments in this study. The comparison of HBI scores obtained at the first and second administration was used, in part, as a measure of the impact of incarceration on behavior. A second measure was also obtained by the quantitative and qualitative analysis of data obtained from the TFA Clinical Assessment focusing on the same decision points when the HBI was administered.

CHAPTER FOUR

RESULTS

This chapter presents the results of descriptive and comparative data collected during personal interviews with twenty incarcerated DUI second offenders. The overall purpose of this study was to determine the effect of incarceration on behavior patterns of DUI second offenders. The TFA Clinical Assessment and the Hutchins Behavior Inventory provided the means to collect both quantitative and qualitative data relative to a specific event.

Twenty of the twenty-nine male second offenders sentenced in court during the course of this study agreed to participate. Of the individuals who were not included, one had received treatment since his second offense, two were beyond the age limits established for the study, three received sentences for other offenses as well as their second DUI offense and had much longer jail terms to serve, and three individuals refused to participate in the study. All twenty participants were incarcerated in the same prison and were housed in the work release section of that prison.

Thirteen individuals had the potential to complete all three interviews. Of these, two participants did not complete the third interview. One individual refused to return telephone calls by the researcher to set up the final interview and the other individual's telephone was

disconnected and he did not respond to a letter sent requesting follow-up contact.

Four of the participants were not granted any liberties to leave the prison during their period of incarceration. Data was collected from these individuals regarding their behavior relevant to their decision to drink which led to their second DUI arrest. These individuals also completed the portion of the interview which included the DSM-III-R criteria for alcoholism and the final section of the interview focusing on what would have prevented their first and second DUI arrest.

Three participants were interviewed during the later stages of the study and completed only the first phase of the data collection. In an effort to maximize data collection, the interview format for the first session included the questions regarding the DSM-III-R criteria and the section asking for the individual to identify what would have worked to keep them from getting arrested for their DUI offenses. All other procedures in the format for the first interview were followed.

The results presented in the remainder of this chapter are drawn from data collected from all individuals who participated in the study. These results are organized around the research questions presented in Chapter One.

Question 1

What is the current status of research available on incarceration of adult DUI repeat offenders?

Chapter Two provided a review of current research pertinent to the DUI offense. Several fundamental findings emerged from the literature regarding the definition of a DUI offense, the impact of incarceration on drunk driving behavior, the definition of an impaired driver, and current methods of assessing the impact of incarceration on the behavior of DUI second offenders.

What is a DUI offense?

A DUI offense is a criminal act based on per se laws and/or presumptive laws enacted and enforced by each state government. Per se laws make it an offense to drive a motor vehicle, or be "in charge" of the operation of a motor vehicle, with a specified level of alcohol in the body. Presumptive laws establish levels of alcohol in the body at which a driver is presumed to be impaired and a danger to himself or others. The presumptive levels of blood alcohol concentrations emerged from the Grand Rapids studies in the 1960s in which elevated blood alcohol levels were associated with increased accident rates. In most states, a blood alcohol concentration of .10 percent is the established presumptive level.

DUI is an inchoate offense because it is not dependent on

the occurrence of any harm. Individuals can be charged with a DUI offense before being involved in an accident or causing damage to property. Actual observance of erratic or reckless driving is not necessary for prosecution under DUI laws as would be the case of an individual being arrested for DUI at a sobriety checkpoint.

DUI is also classified as a criminal offense which allows police officers to take preemptive action before accidents occur. A condition of "probable cause" needs to exist prior to any legal intervention.

What is an impaired driver?

The term "impaired driver" is commonly associated with an individual who is committing a DUI offense. The individual identified as an impaired driver need not necessarily demonstrate impairment in driving skills or actually be driving a motor vehicle.

The degree of driving performance impairment caused by alcohol consumption is still unknown. Individuals who drink large amounts of alcohol develop a tolerance to alcohol which enables them to perform certain tasks satisfactorily with low blood alcohol concentrations. Research studies contributing to the establishment of current per se and presumptive laws regarding the DUI offense have primarily focused on traffic crash data. To what degree alcohol consumption contributed to the accident or fatality is unknown.

The literature also depicts a certain amount of prejudice toward the drunk driver. Age, physical health and condition, automobile design, and road condition are factors which may be major contributors to crash events. These factors have not demanded the public attention as has driving under the influence of alcohol.

How does incarceration impact drunk driving behavior?

As a special deterrence, there is no indication that incarceration reduces recidivism in the DUI offender population. Several studies have suggested that subsequent crashes and conviction rates were higher for individuals given mandatory jail sentences for DUI offenses.

As part of this study, participants were asked to project what conditions or events, if any, would have been effective in preventing them from drinking and driving before their first DUI arrest and before their second DUI arrest. Additionally, each was asked to project what they thought it would take to keep a person convicted of two DUI offenses from drinking and driving again. A review of the responses to this section of the interview guide is presented in Table 6.

Participants in this study indicated an individual responsibility to institute changes in their behavior to prevent drinking and driving prior to their first DUI arrest. Responses in this category included quitting drinking, staying home, and thinking about the consequences of their behavior.

Table 6

Conditions suggested to prevent drinking and driving

Participant Responses	Prior to First DUI	Prior to Second DUI	Future Drinking and Driving Events
	*		
Quit drinking	3	3	3
Staying at home	2	1	1
Give keys to someone	1	-	-
Thinking about the consequences	2	2	-
Find someone else to drive	4	2	1
Sell the car	-	-	1
Close the bars	1	-	1
Being in a meaningful relationship	3	2	-
Stress not drinking in DUI class	N/A	3	1
Stiffer legal sanctions			
Longer jail terms	N/A	12	8
Larger fines	N/A	2	4
Loss of license	N/A	4	4
Longer probation	N/A	-	2
Nothing can be done to prevent DUI	4	2	1

The symbol (*) indicates the number of participants who cited the designated strategy or event as a condition to prevent drinking and driving.

Suggestions on methods to prevent drinking and driving after the participants' first DUI arrest and before their second arrest included both personal responsibility and actions of others. Responses involving others in the preventive strategies included having someone else drive them home, closing the bars, being in a meaningful relationship, stressing abstinence in DUI class, and imposing more stiff legal penalties for the first DUI offense.

Suggestions on how to prevent a person convicted of a second DUI offense from drinking and driving again focused most heavily on legal sanctions. These responses included longer jail terms, larger fines, and longer periods of restricted driving privileges for individuals convicted of a second DUI offense.

Four individuals indicated that nothing could have been done to prevent their drinking and driving prior to their first DUI arrest. This same type of response was noted in the other two categories but in a slightly different format. Responses in these categories included comments about being unable to change someone if they did not want to change, global comments about the inevitability of drinking and driving, and failure to identify any strategies outside the current methods used that would be effective.

Suggestions regarding changes in conditions or events to prevent drinking and driving cited across all three situations

showed a transition in focus from actions the individual could take to prevent drinking and driving to the "system" imposing more severe legal consequences for DUI offense. Participants in this study indicated a shifting of responsibility for behavior change from "self" to "others". Their perceptions of the impact of legal sanctions on changing drinking and driving behavior is not consistent with current research on recidivism rates after incarceration.

What instruments are available to measure impact of incarceration on the behavior of DUI second offenders?

The primary data regarding the impact of incarceration on the behavior of DUI second offenders comes from studies of recidivism rates. The literature suggests that early DUI research was directed toward identification of specific traits which predicted recidivism. Multivariate studies have attempted to develop predictive psychometric and demographic variables which identify DUI recidivists. To date, the most extensive research has identified psychometric and descriptive clusters of traits rather than identifying any specific predictive variables.

Several instruments have been used to determine alcoholism rates among DUI repeat offenders. The Mortimer-Filkins test and the MAST have been used extensively to distinguish between alcoholics, problem drinkers, and non-problematic drinking behavior. The MMPI has also been used in

an effort to determine specific personality characteristics of alcoholics. It cannot be presumed, however, that all DUI repeat offenders are alcoholic.

No research studies could be found which specifically measured the impact of incarceration on DUI second offenders. Recidivism rates have been the primary indicator of effectiveness of special deterrence initiatives on multiple offenders as a group. The TFA Clinical Assessment and the Hutchins Behavior Inventory were used in this study to measure the impact of incarceration on the participant's decision to engage in drinking behavior. The results of the administration of these instruments are discussed later in this chapter.

Question 2

What are the characteristics of the adult DUI second Offender?

Chapter Two contained a review of the literature relevant to psychometric and behavior characteristics which have been identified as contributors to the DUI offense. Current research suggests that the population of DUI offenders is a heterogeneous group which defies identification with a specific set of variables. While some trends have been noted, there is currently no method to determine which DUI first offenders will become second offenders.

What effect does age, gender, education, socioeconomic, and marital status have on DUI second offenders?

Age, gender, marital status, educational level, and socioeconomic level are the descriptive variables which appear most commonly in the literature. Gender was not considered a variable in this study due to the historical underrepresentation of female DUI second offenders in this geographic region. While drinking and driving is an overwhelmingly male activity, the number of women found in the DUI population is increasing. Gender issues contributing to DUI were discussed in Chapter Two.

Age. The literature presents conflicting conclusions regarding the impact of age on multiple DUI offenses. Two studies indicated fewer recidivists under the age of 30 (Beerman et al., 1988; Pisani, 1986). Arstein - Kerslake and Peck (cited in Perrine et al., 1988) found recidivists were younger, as a group, than first offenders as a group.

The age range of the participants in this study was from 22 to 42 years old. The mean age of the group was 30.9 and the median age was 31.5 with a standard deviation of 6.398 years. There were two distinct age groups which emerged from the study. The first age group ranged from 22 to 27 years old with a mean age of 24.88 (n=9). The second age group ranged from 31 to 42 years old with a mean age of 35.81 (n=11).

These two age groups differed on several variables in

this study. The younger group had lower BAC levels for both offenses, had a higher educational level as a group, and had a shorter period of time between termination of probation for their first DUI offense and their arrest for a second DUI offense.

Education. Eight of the participants in this study completed high school and only one individual finished four years of college. Of the twelve individuals who did not complete high school, four completed GED requirements. The mean formal educational level of achievement for participants in this study was 11.1 years.

The mean number of years of formal education completed by the participants in the younger age group was 11.89. Six of the nine participants in this group completed high school and one completed an additional four years of college. Two of the three participants who did not complete high school completed GED requirements.

The mean number of years of formal education completed by the participants in the older age group was 10.45. Two of the eleven participants in this age group completed high school and two additional members completed GED requirements.

Only one individual indicated any special classes taken in school for academic deficiencies or problems. Twelve participants indicated they took industrial arts or vocation technical courses while in high school. The academic

curriculum and the business education curriculum was represented by only one participant each. Five individuals indicated they had taken general courses in school.

None of the participants indicated any involvement in educational pursuits when interviewed. Every participant indicated satisfaction with their progress in school although some writing samples observed in probation records indicated poor spelling and sentence construction.

Only two research studies were found which addressed educational level of achievement of multiple offenders (Argeriou et al., 1986; Pisani, 1986). Both studies indicated that those individuals who did not complete high school comprised a major portion of the DUI multiple offender group. No statistics were noted for second offenders as a group.

Socioeconomic status. Employment status, employment stability, occupational status, and disposable monthly income were noted as socioeconomic status indicators. Seventeen of the participants in this study were employed full-time and three were unemployed while in jail. The distribution of occupational status, job categories, and job type is presented in Table 7 for all participants. Only one participant indicated a white-collar occupational status. This individual was also the only participant who had a college degree.

During the interviews, many participants had difficulty determining gross monthly household income. Most of the

Table 7

Occupations of study participants (employed and unemployed)

Status	Job Category	Job Type	Frequency
Blue Collar			
	Building Trades Industries	Carpentry	3
		Masonry	3
		Building Supply	1
		Ceiling Installation	1
	Processing and Fabrication	Metal Fabrication	3
		Machine Set-up	1
		Machine Operator	1
		Material Handler	1
		Bench Work	1
		Fork Lift Operator	1
	Auto Repair	Diesel Michanic	1
		Auto Body	1
	Logging	Tree Feller	1
White Collar			
	Book Publishing	Copywriter	1

participants who were married, in live-in relationships, or were living with parents deferred financial management to others. Of the twenty participants in this study, nine lived with parents or other adult relatives. These nine participants could not adequately determine gross monthly household income.

The average annual estimated income of all of the participants in the study was $15,995 with a range from $6000 to $24,960. These figures did not include overtime work, or lack of work due to inclement weather for those involved in building trades.

Each participant was asked to determine the amount of disposable income available to them on a monthly basis. Disposable monthly income levels ranged from $100 to $800 with a mean of $378. A distribution of disposable monthly income by marital status is presented in Table 8. The number of participants in each category was too limited to support conclusions regarding the amount of disposable income available by marital status. The data does suggest, however, that individuals who live with adult family members tend to have more disposable income than those individuals who are married or in live-in relationships. The disposable income levels obtained did not suggest high income levels for participants in this study.

Participants were asked to provide a work history

Table 8

Disposable monthly income and marital status

Marital Status	Disposable Monthly Income
Married	$275
Live - in	$387
Divorced - Living along	$450
Divorced - Living with adult member(s) of family of origin	$450
Single - Living alone	$300
Single - Living with adult member(s) of family of origin	$425

including periods of unemployment. Individuals in the younger age group, 22 - 27 years of age, reported an average of 3.67 job changes in their work history as compared to 2.91 job changes for the older age group. The average length of time participants had been working at their current jobs was 1.98 years for the younger group and 3.95 years for the older group. The mean length of employment for the total group was 3.06 years.

The difference in job stability between the two age groups might be attributed to type of jobs obtained. In the younger group, 55.6 percent of the participants were employed in the building trades industry; an industry prone to frequent layoffs and unstable employment conditions in this geographical region. In the older group, 63.7 percent of the participants were employed in area industrial firms where employment status has traditionally been more stable. Job changes in both age groups were along horizontal lines rather than upward mobility in occupational status. Only two of the twenty participants indicated they were unsatisfied with their current employment status. These individuals were unemployed due to their incarceration.

This study supports research which indicates an overrepresentation of blue-collar workers in the DUI multiple offenders group (Argeriou and McCarty, 1986; Siegal, 1985; Pisani, 1986). Studies were not available for comparison of

annual income levels obtained in this study to other DUI second offenders or to DUI multiple offenders as a group.

Marital status. In this study, four of the participants were married and living with their spouse. Of these, one had been married previously. Four individuals indicated they were currently in a live-in relationship. Of these individuals, one had been married and divorced three times and one had been married and divorced once. Of the four participants who indicated they were currently divorced, one indicated he had been married twice and divorced twice. Seven individuals indicated they were single and not in a live-in relationship. All but two participants indicated they were either "satisfied" or "very satisfied" with their current marital status. One of these individuals was single and the other was divorced.

Many of the individuals who reported being divorced or being single currently resided with members of their family of origin. Of the twelve participants in the divorced or single marital status category, eight lived with family members. The mean duration of relationship among men in the married and live-in categories was 4.72 years. Divorced men indicated an average of 3.95 years since their divorce. None of the single men reported having had live-in relationships.

Of the twenty individuals in this study, nine had experienced divorce at least once. This rate seems consistent

with the divorce rate of nearly 50 percent in the U.S. population as a whole.

Table 9 compares marital status to participant age, the day of the week that the individual was arrested for their second offense, and the blood alcohol concentration at the second arrest. In this table, marital status categories are grouped into those individuals who are married or in a live-in relationship and those individuals who are divorced or single. While age does not seem to differ significantly between these two major categories, a higher percentage of individuals in relationship were arrested on Friday, Saturday, or Sunday than were single or divorced men. The BAC levels for the single and divorced group was higher than the BAC level for participants in relationships.

The results of this study are consistent with information presented in Table 3 in Chapter Two indicating the higher rates of DUI conviction for single and separated or divorced men.

What is the relationship between the two arrests and blood alcohol concentration, time of day arrested, day of week arrested, and previous driving record?

Efforts to understand the DUI event through the examination of drinking variables was discussed in Chapter Two. Time of day and day of week variables have contributed to adjustments in police manpower to provide sufficient

Table 9

Influence of marital status on second DUI arrest

Marital status	Average Age	Day of second arrest	BAC at second arrest
Married		Weekend - 6 (75%)	
or	31.12		.182%
Live-in		Weekday - 2 (25%)	
(n=8)			
Divorced		Weekend - 7 (58%)	
or	31.10		.204%
Single		Weekday - 5 (42%)	
(n=12)			

surveillance for drunk drivers at prime times. Increases in recorded BAC levels by DUI arrest and age suggest an increased tolerance of the effects of alcohol by the drinking driver. The actual contribution of alcohol consumption to accident involvement is still unknown.

Blood alcohol concentration. Blood alcohol concentration data for both DUI arrests was taken from the arresting officers' reports filed on each study participant. These reports were contained in the confidential files located in the county probation department.

The range of BAC levels at the first arrest for study participants was from .10 to .27 percent with a median level of .18 percent and a mean level of .177 percent. The standard deviation of the BAC levels at the first offense was .055. At the second arrest, the range of BAC levels was from .12 to .29 percent with a median level of .19 percent and a mean level of .196 percent. The standard deviation of the BAC levels at the second offense was .049.

T-tests indicated no significant difference between the mean BAC level at the first arrest and the BAC level at the second arrest for the total group in this study (t =.2692; alpha = .05, df = 37). While the younger group had a lower mean BAC level than the older group in both DUI events, these differences were not statistically significant.

T-tests also indicated no significant difference in mean

BAC levels in the younger or older group between the first and second DUI arrest. Mean BAC levels for the study participants as a group and by age group are represented in Table 10.

This study supports, in part, research which indicated an increase in BAC levels by DUI arrest (Beerman et al., 1988). Moderate increases in BAC levels cannot automatically be associated with increased impairment in driving skills. What is significant, however, is that the individuals in this study did not appear to moderate their drinking patterns as a result of their first DUI event, especially with regard to those situations involving driving.

Time of day. Research finding presented in Chapter Two indicated the high incidence of drunk driving arrests which occurred in the late evening and early morning hours (Beerman et al., 1988). The arrest patterns of the participants in this study were similar to research findings in the literature.

Of the forty arrests recorded in this study, twenty-nine, or 72.5 percent, occurred in the time frame from 10:00 p.m. to 6:00 a.m. More first offenses occurred during this time frame than second offenses which might indicate a modification of drinking and driving behavior to avoid major surveillance efforts by police. Table 11 represents time frames for both arrests for study participants. No differences were noted when time of day of arrest was compared to age or marital

Table 10

Influence of age on mean BAC levels for two DUI arrests

Age categories	BAC at first offense	BAC at second offense
22 - 27	.162	.167
31 - 42	.190	.222
Total Study	.177	.196

Table 11

Distribution of time of day data for both DUI arrests

Time of Day Categories	First DUI Arrest	Second DUI Arrest
6:01am - 1:00pm	0	1
1:01pm - 10:00pm	2	8
10:01pm - 6:00am	18	11

status.

Day of week. Nineteen of the twenty participants in this study were charged for one of their DUI offenses on a Friday, Saturday, or Sunday. Six individuals were arrested during the weekend on both offenses. Seven individuals were arrested during the week on their first offense and during the weekend on their second offense. Six individuals were arrested during the weekend on their first offense and during the week on their second offense.

Table 12 represents a distribution of DUI arrests by offense. Friday, Saturday, and Sunday arrests accounted for 57.5 percent of all arrests for both DUI events for the participants in this study. Only minor differences were noted in the overall distribution of arrests between the first and second offenses. This suggests, as a group, these individuals did not consider increased police surveillance during weekend hours as a significant deterrent to drinking and driving.

The distribution of arrests by day of week is consistent with FARS data presented in Chapter Two relevant to driving risk and accident involvement.

Previous driving record. Fifteen of the twenty participants in this study reported they had a previous driving offense other than their first DUI arrest. The range of previous driving offenses was from 1 to 11 for those reporting moving violations. Table 13 represents the range of

Table 12

Distribution of DUI arrests by day of week

Day of week of arrest	First Offense	Second Offense
Sunday	2	2
Monday	3	2
Tuesday	2	4
Wednesday	1	1
Thursday	3	1
Friday	4	5
Saturday	5	5

Table 13

Other moving traffic violations reported by participants

Violation	Number of participants reporting offense
Speeding	9
Reckless driving	5
Driving under suspension or without a license	4
Passing a stopped school bus	2
Stop sign/yield violation	2
Hit and run	1
Fleeing and eluding	1
Following too close	1
Crossing center line	1

particular violations reported. Speeding and reckless driving were the most common driving offenses reported.

Police reports of moving violations other than DUI offenses were not contained in the probation records reviewed. Therefore, the researcher had no means to verify previous driving records of the participants. In review of official records, some of the participants had extensive files for offenses other than DUI. Some of these offenses included breaking and entering, receiving stolen property, firearms violations, theft, and assault. More accurate data on criminal activity should be reviewed to address the offenders' attitude toward laws in general rather than depending on self-reports limited to driving offenses.

What is the relationship between intervening arrest dates and termination of probation from the first DUI offense?

Survival rate is a term used to describe the length of time between the first DUI arrest and the second DUI arrest in this study. The participants had an average survival rate of 35.45 months with a range from 2 months to 86 months with a standard deviation of 22.94 months. By age, the younger drivers had a mean survival rate of 28 months and the older drivers had a mean rate of 41.55 months with standard deviations of 27.61 months and 23.85 months respectively.

As a result of their first DUI offense, most of the participants were sentenced to 12 months probation. Only four

of the twenty participants terminated their probation early. Five individuals completed twelve months of probation, and seven had their probation extended, usually because of outstanding balances owed on their fines. Four individuals had their probation revoked due to new charges.

Official records were accessed to determine commencement and termination of first offense DUI probation conditions for the participants in this study. The average survival rate between the termination of probation and the second DUI arrest was 18.5 months with a range of a few days to 60 months.

Table 14 shows a comparison of age categories of study participants to survival rate after termination of probation, and BAC level by both DUI events. The older age group had a longer survival rate after probation, had higher BAC levels in both events, and had fewer members arrested for their second DUI offense while still on probation from their first offense. These differences might be contributed to more extensive driving and drinking experiences of the older group. Driving habits of the younger drivers might also provide the probable cause for police intervention where DUI is a secondary offense.

<u>What is the relationship between alcoholism and second offense DUI</u>?

Chapter Two presented research regarding the prevalence of alcoholics among the DUI population. Zylman (1974) and

Table 14

Mean survival rates between DUI arrests and between
termination of probation and second DUI arrest

Age Category	Survival Rate - 1st DUI - 2nd DUI	Survival Rate - Probation - 2nd DUI	BAC 1st DUI	BAC 2nd DUI
Younger (22-27)	28 months	13.22 months	.162	.167
Older (31-42)	41.55 months	22.82 months	.190	.222
Group	35.45 months	18.5 months	.177	.196

Jacobs (1989) supported the position that the DUI population and the alcoholic population are different although there may be some overlap.

The DSM-III-R criteria for addiction was used as a means to determine the prevalence of alcoholism among the study participants. Each participant was read the nine criteria statements and asked to respond to each with a "yes" or "no" regarding their personal drinking patterns. Four individuals answered "yes" to at least three of the criteria. Three "yes" responses supported a diagnosis of alcoholism.

Upon review of the distribution of questions answered "yes", it was noted that one obvious criteria was answered "no" by most of the participants. The statement asked if intoxication or withdrawal symptoms interfered with major roles they were expected to fulfil at home, school or at work or if use of alcohol was physically hazardous in the situation in which they were participating. Seventeen of the participants failed to associate drinking and driving to a physically hazardous situation. When the criteria was adjusted for this question, ten participants met the criteria for a diagnosis of alcoholism. A distribution of the most frequent statements answered with a "yes" response is shown in Table 15.

The results of this study suggests that half of the participants were alcoholic. Of these ten, five had BAC

Table 15
DSM-III-R criteria statements answered with "yes" response

Criteria Statement	Number of participants responding "yes"
I drink more and longer than I intended.	9
I would like to stop drinking or I have tried to stop in the past but have been unsuccessful.	7
A great deal of time is spent in activities necessary to get the alcohol, drink, or recover from its effects.	1
Important social, occupational, or recreational activities are given up or reduced because of alcohol use.	1
I continue to drink alcohol despite the knowledge of having a persistent or recurrent social, psychological, or physical problem that is exacerbated by this behavior.	4
I need to drink increased amounts of alcohol in order to achieve intoxication or the desired effect, or I recognize a markedly diminished effect with continued use of the same amount.	5
I have experienced withdraw symptoms when I have stopped drinking for a period of time. These symptoms might include nausea, vomiting, weakness, tachycardia, elevated blood pressure, anxiety, depression, transient hallucinations, insomnia, headaches, delirium, or course tremors of the hands, tongue, or eyelids.	3

levels above .20 percent at their second arrest, and four had BAC levels between .17 and .20 percent. Three individuals with BAC levels of .29, .25, and .23 percent did not answer enough questions to satisfy a diagnosis of alcoholism.

Who gets arrested for second offense DUI?

Characteristics of participants in this study are similar to those found in other DUI research. Table 16 represents a comparison of participant characteristics to DUI recidivism correlates found in Table 2. This study failed to identify any specific pattern of demographic variables which would contribute to current research efforts to distinguish DUI first offenders from repeat offenders.

Ethnicity was not considered a variable in this study. It should be noted, however, that all study participants were Caucasian. This might be a result of the rural setting of the study and the ethnic population demographics for the region.

Certain trends emerged through the course of this study which might provide a basis for future research. Most of the participants dropped out of high school and have changed jobs frequently. Improvement of quality of life through educational advancement and occupational stability might be a significant factor in determining an individuals motivation to make significant behavior changes with regard to drinking and driving.

Table 16

Study participant characteristics compared to DUI recidivism
correlates found in Table 2

Variable	Table 2	Study Participants
Age	younger	21-27 and 31-42 ranges noted. Near equal distribution.
Marital Status	single or divorced	40% married or in live-in relationships. Nine out of twenty had experienced divorce.
Driving Record	prior DUI, more traffic violations	Fifteen reported prior moving traffic offenses in addition to their first DUI arrest.
Gender	male	Study limited to male offenders.
Socioeconomic Status	blue-collar	Nineteen of twenty blue-collar workers.
Race	ethnic minority	Caucasian
Alcohol Problem	higher BAC, previous alcohol treatment	High BAC, 50% met DSM-III-R criteria for diagnosis of alcoholism.

A second trend which emerged from this study was the degree of relationship instability noted. Many of the participants had experienced divorce. Some had remarried and many returned to live with a family member. Research into quality of relationships might provide significant information regarding the continued prevalence of DUI arrests on weekends and during late night hours.

Research Hypothesis One (Question 3)

There is no difference in behavior patterns of study DUI second offenders' thoughts, feelings, and actions at the time they decided to engage in drinking behavior leading to their second DUI arrest, at selected periods during their incarceration, and at a time thirty days after their parole from jail.

A primary interest in this study was determining how an individuals' thoughts, feelings, and actions influenced their decision about engaging in drinking behavior. Both quantitative and qualitative analysis of data provided the methodological framework to examine decision-making behavior.

The interview format for this study was discussed in Chapter Three. Participants in this study seemed indifferent about being included in the study, however, only three candidates refused to be interviewed. Individuals completing the second and third interview seemed more enthusiastic in those sessions. Interviews were tape recorded as well as

transcribed onto the interview guide.

What were the thoughts, feelings, and actions of the study participants determined by TFA Clinical Interview at time periods of eight hours, four hours, and one hour before their decision was made to engage in drinking behavior which ultimately led to a second DUI arrest?

Through the use of the TFA Clinical Interview, participants in this study identified specific thoughts, feelings, and actions relevant to three established time references before they made the decision to drink which resulted in their second DUI arrest. The context of these responses was analyzed using the askSam Data Management System.

Thinking, feeling, and acting responses were recorded on the interview guide. Review of the interview tapes and the text in which these terms appeared allowed for content and context analysis. The researcher identified twenty-one responses which did not seem appropriate for the categories in which they were placed by the participants. A panel of allied professionals reviewed these responses and ranked them in thinking, feeling, or acting categories. These responses were placed in the category determined by the panel to be the most appropriate prior to analysis using askSam.

Data dictionaries were developed using the askSam Data Management System for thinking, feeling, and acting responses

in all pre-decision intervals.

Thinking Responses. Table 17 represents the thinking responses identified by the participants at the three pre-decision intervals. Two major themes emerged from the data.

Work and work related activities was a predominant focus at the eight-hour interval but lost some significance by the one-hour interval. Focusing on work activities was the major thought identified by participants. Since most of the decisions to drink were identified near the end of a normal workday, such a focus on work seemed appropriate.

A second theme which emerged in this data was the reference to planning of activities after work. These references were noted in all three intervals but became more pronounced at the one-hour interval. These thoughts ranged from wondering what activities would be pursued to anticipation of participation in planned activities.

There was little reference to abstract thinking processes. Two individuals indicated thinking about problems they were having with their girlfriends, two indicated thinking about past events in their childhood, and one participant focused on events surrounding the Persian Gulf War.

Feeling Responses. Table 18 represents feelings identified by participants during the pre-decision intervals. The total list of identified feelings was classified by the

Table 17

Thinking responses at pre-decision intervals

Response Categories	Number of participants responding		
	Eight-hour	Four-hour	One-hour
Work	11	8	5
(Included: Thinking of actual work being performed, getting laid-off, getting paid, getting off work, going to work tomorrow.)			
After work planning	3	6	10
(Included: Plans for actual events, references to wondering what to become involved in during the evening, and planning for the weekend.)			
Focused on watching television	1	2	0
Past Events	2	0	1
(Included: References to growing up as a child and problems in past relationships.)			
Buying alcohol for future drinking	0	1	1
Persian Gulf War	0	1	1

Table 18

<u>Feeling responses at pre-decision intervals</u>

Eight-hour interval

<u>Negative</u>	<u>Neutral</u> *	<u>Positive</u>
sick (physically)	good (2)	Payday
hungry	normal	excited
tired (4)	anxious	happy (2)
cold		
frustrated		
hangover		
depressed		

Four-hour interval

<u>Negative</u>	<u>Neutral</u>	<u>Positive</u>
sick (physically)	Wanted to be left alone.	Glad it was payday.
hungry		
tired	anxious	happy
cold	relaxed	excited
frustrated		
depressed		

Table 18 continued

Feeling responses at-pre-decision intervals

One-hour Interval

Negative	Neutral	Positive
sick (physically)	good (3)	happy (5)
tired	normal (2)	glad
cold	relaxed	proud
depressed	anxious	excited
paranoid	rested	Looking forward
bored	relieved	to going to the club.
confused		
nervous		

* Figures represent the number of participants who identified these particular feelings. Feeling responses without numbers in parentheses should be interpreted as being identified by one participant.

researcher into positive, neutral, or negative.

Negative feeling responses were the largest category at all three intervals. While the frequency of feeling responses in the positive, neutral, and negative categories remained fairly consistent from the eight-hour interval to the four-hour interval, several changes were noted at the one-hour interval. Over twice as many neutral responses were noted at the one-hour interval than were noted at the other two intervals. Positive responses at the one-hour interval also doubled compared to the other intervals.

Some of the negative feelings identified were associated with work activities. These included feeling tired, hungry, cold, and frustrated. The increase of neutral feelings at the one-hour interval was generally associated with the end of the work day.

Acting Responses. Table 19 represents the acting responses given by the participants relevant to each pre-decision interval. Eight-hour acting responses focused on work and work related events. Watching television emerged as a major activity at the four-hour interval.

Activities at the one-hour interval were diverse however many focused on drinking related situations. "Getting ready to go out" was related to going to a club or to a bar. Shooting pool, playing darts, and talking with friends were also associated with drinking environments.

Table 19

Acting responses at the pre-decision intervals

Response Categories	Number of participants responding		
	Eight-hour	Four-hour	One-hour
Work	10	9	4
(Included: getting ready to go to work, goint to work, getting off work, getting paid.)			
Getting ready to go out.	1	1	5
Watching television	2	6	3
Talking with friends.	0	1	2
Eating	0	1	2
Drinking *	0	2	1
Playing pool or darts	0	0	2

* Two individuals indicated their time of decision about engaging in drinking which led to their second DUI arrest was the day before their arrest date.

<u>Summary of thinking, feeling, and acting responses</u>.
The thoughts, feelings, and actions described by the participants at the designated intervals showed an interrelationship and a transition. Thoughts, feelings, and actions associated with work and working events appeared at each interval. Planning and anticipation of events after work were noted at the eight-hour interval and became more prominent as the time intervals approached making a decision about drinking.

The emergence of neutral and positive feelings coupled with the shift from work related activities to social activities seemed significant. Social involvement in drinking environments seemed to elicit positive feelings which might have offset potential negative consequences of drinking.

The thoughts described by the participants appeared to reflect substantial concrete thinking processes. Individuals appeared focused on the activity they were involved in at the time. Some abstract thinking was noted with references made to thoughts about childhood, problems with a girlfriend, and the U.S. involvement in the Persian Gulf War.

Considering the dangers of drinking and driving as well as the consequences of a second DUI arrest would require abstract thinking which may not be characteristic of this group in pre-drinking situations. Participants were asked if they considered the consequences of a second DUI before they

started to drink, before they started to drive after having been drinking, or while they were driving under the influence. Three individuals indicated they considered these consequences at all three times and all three indicated they knew they would go to jail if they were arrested for a second DUI. All three were also involved in social activities with friends which appeared to influence their decision making process. While driving under the influence, these individuals expressed thoughts regarding methods to avoid detection.

The apparent lack of consideration of consequences of a second DUI arrest by the majority of study participants seems related to their assessment of the probability of getting a second DUI arrest. Individuals were asked to focus on the time frame after their first DUI arrest and before their second DUI arrest. They were then asked to indicate what they considered to be the probability of a second DUI offense during this time frame. Fifteen individuals indicated a probability level under thirty percent with ten of these being ten percent or less. The average of the probability levels indicated for the total group was twenty-five percent.

What was the TFA triad of the study individual determined by the HBI and TFA Clinical Interview when the decision was made to engage in drinking behavior which ultimately led to a second DUI arrest?

Participant's thoughts, feelings, and actions at the time

they made a decision about engaging in drinking behavior was of major importance in this study. The Hutchins Behavior Inventory, the TFA Clinical Interview, and the actual thinking, feeling, and acting responses were analyzed relevant to the specific decision making time identified by each participant.

Hutchins Behavior Inventory. The Hutchins Behavior Inventory was administered to each participant during the initial interview relevant to the specific time each participant identified as a decision-making point regarding engaging in drinking leading to their second DUI arrest. The HBI results were computer generated with a triangle plotted reflecting the interaction of thoughts, feelings, and actions and the intensity of these items. For purposes of comparison and interpretation, the HBI computer generated triangles were converted to the nine-point TFA triangle used with the TFA Clinical Interview. This conversion was accomplished following the format established in the Manual for the Hutchins Behavior Inventory (Hutchins and Mueller, 1992).

The weighted bipolar scales section of the HBI report was used to convert the computer generated TFA triads onto the nine-point TFA triangle used with the TFA Clinical Interview. The TFA triads generated from these weighted scores for each participant are presented in Figure 2. Scoring of the converted HBI generated triads was accomplished according to
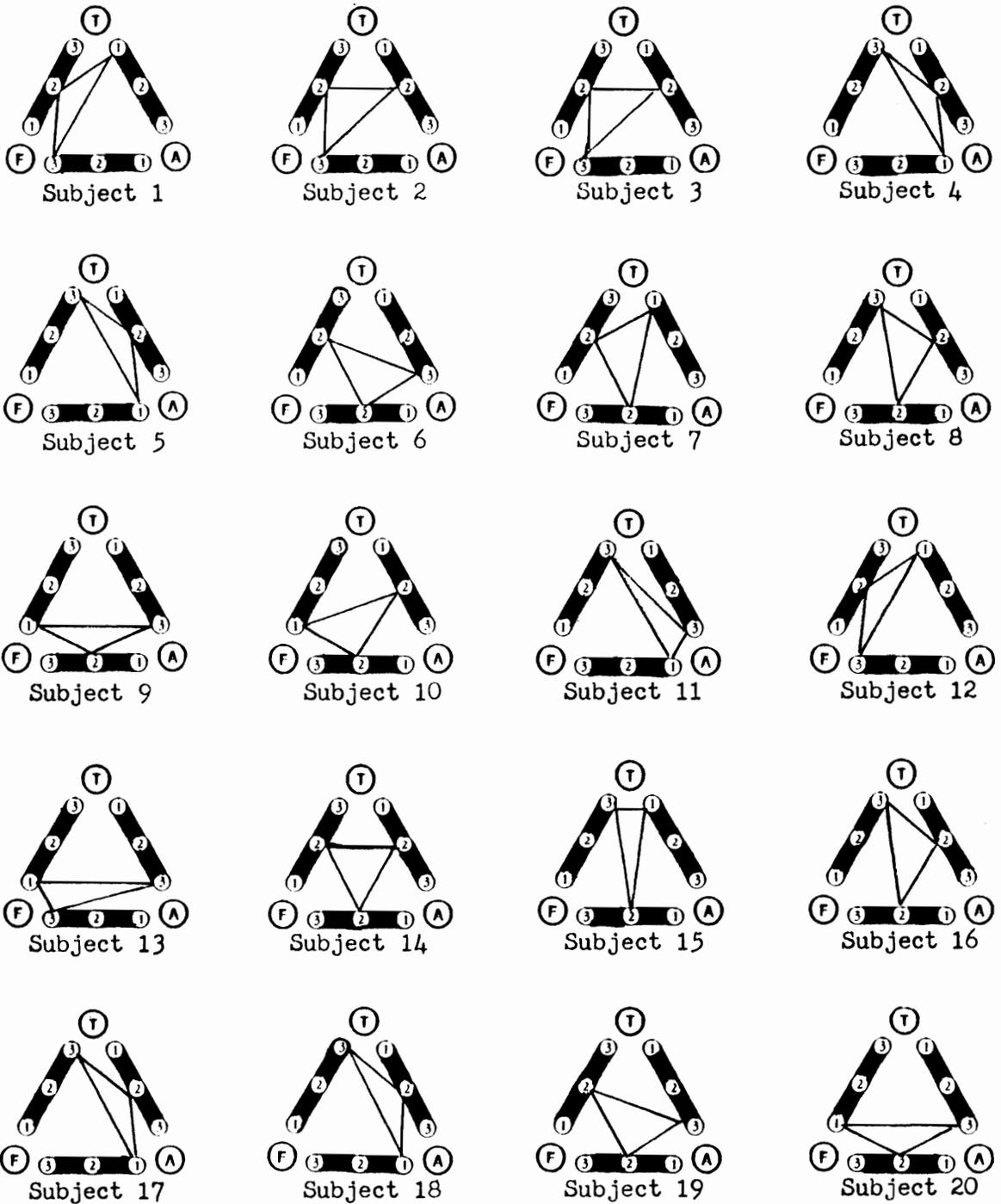
Figure 2. TFA patterns on HBI assessment at time of decision

methods described in Chapter Three.

Eighteen of the twenty TFA Triangles generated by the HBI had at least one mid-point on one of the bipolar scales. Had the other two participants made one "thinking" choice rather than an "acting" choice, all twenty TFA triads would have had at least one vertex at a mid-point on one of the bipolar scales.

Distribution of occurrences of mid-point scores was fairly equal. There were eight mid-points indicated on the T-F bipolar scale and ten mid-points each indicated on the T-A and F-A bipolar scales. Those TFA triads which contained two mid-point scores also showed a nearly equal distribution across all bipolar scale combinations.

This predominance of mid-point scores might be explained, in part, by the review of the specific thinking, feeling, and acting responses indicated at the time the decision was made regarding engaging in drinking. These responses are presented later in this section. In general, most individuals were making plans about drinking or were focusing on bar-related activities at the decision making time. More neutral or positive feelings were identified than negative and only one individual worried about getting caught for a second DUI. An overwhelming majority of actions identified with this decision making time were related to getting ready to go out to drink, drinking, socializing in a bar, or participating in shooting

pool or playing darts in a drinking environment.

Results of the HBI nine-point triangle scoring. Means
were calculated for thinking, feeling, and acting scores from
the nine-point HBI generated triads. In rank order of mean
values, the TFA triad for this group was T - A - F with mean
scores of 3.73, 3.18, and 3.55 respectively. The emphasis on
thinking was also evident in scored results of the TFA triads
generated from the TFA Clinical Interview and the qualitative
analysis of the participant's responses at this decision
making time.

The nature of the thinking described by the participants
at the time they made the decision to engage in drinking was
focused primarily on planning the drinking event and
projections of social rewards associated with meeting friends
in a drinking environment. References to consideration of
non-drinking alternatives or reflections on the possible
consequences of getting arrested for a second DUI were not
noted. A discussion of the thinking response categories are
presented later in this chapter.

TFA Clinical Interview. Each participant was asked to
assess their behavior with regard to the time they made the
decision about engaging in drinking behavior which led to
their second DUI arrest. This was the same situation assessed
by the first administration of the HBI. Individuals were
asked to indicate which of the three points on each bipolar

scale of the TFA triangle best described their behavior in this decision-making situation. The TFA triads were scored according to the methods described in Chapter Three.

The TFA triads which emerged from the TFA Clinical Interview are presented in Figure 3. In the twenty triads, thinking, feeling, and acting variables had non-zero scores in nineteen, seventeen, and twelve figures respectively. The nature of the thoughts represented in these triads was counterproductive to considering non-drinking alternatives or evaluating the consequences of problems associated with drinking. The nature of the feelings represented in these triads showed an anticipation and excitement associated with the drinking event and supported the thoughts about engaging in drinking.

Hutchins and Mueller (1992) suggest that a mid-point score on a bipolar scale on the TFA triangle might reflect equilibrium between two dimensions of behavior while also indicating flexibility to move from one behavior orientation to another depending on the particular situation. At the eight-hour, four-hour, and one-hour pre-decision intervals in this study, the percentages of triads containing at least one mid-point score were 92, 75, and 67 respectively. Half of the triads generated at the time of decision contained no mid-points on any of the three bipolar scales of the TFA triangle. This consistent and gradual reduction in mid-points leading to
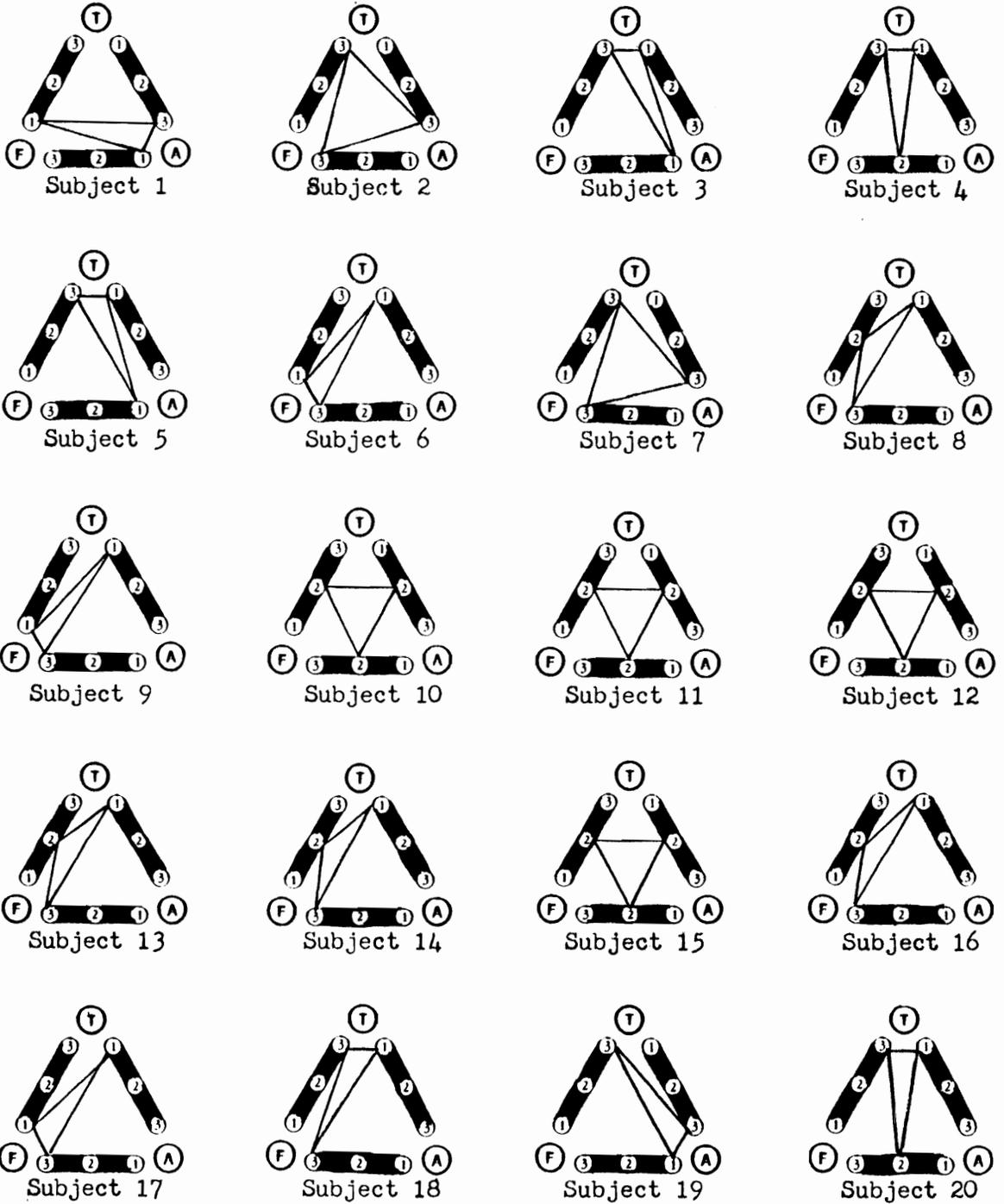
Figure 3. TFA patterns on TFA Clinical Interview at time of decision

a decision about engaging in drinking may have systematically reduced the flexibility to consider non-drinking alternative activities or to disengage from the emotional thrill and reward associated with the drinking environment.

TFA Clinical Interview scoring results. Mean scores were calculated for the thinking, feeling, and acting scores of the TFA triads generated from the TFA Clinical Interview. The TFA triad generated for the total group by rank order of mean values was T - F - A with a thinking mean score of 4.09 being larger than the mean scores of feeling (M = 3.27) and acting (M = 2.82). These scores indicate the emphasis placed on the "thinking" variable as noted above in the HBI results associated with the same situation. Results of both instruments indicate the relative close relationship between the "feeling" and "acting" variables as compared to the relationship of either of these two variables to the "thinking" variable.

Qualitative analysis of responses. An examination of the thinking, feeling, and acting responses provided by the participants in this study provided insight into the decision making process. An analysis of the specific thoughts, Table 20, reveals a consistent focus on planning the drinking event. Ten individuals planned to be drinking, and five additional participants planned to be in environments and participation in bar activities in which drinking would be a probable

Table 20

Thinking responses at the time of decision to drink interval

Response Categories	Number of participants responding
Planning about drinking	8
Thoughts about friends	6
Focused on shooting pool/darts	5
Planning for the evening	5
Work	2
Eating	1
Girlfriend	1
Persian Gulf War	1

outcome.

Six individuals made references to going to the bar to meet friends. This reference to friendship was not described in pre-decision making intervals. This reference might reflect a rationalization by the participant to support their decision to engage in drinking and to negate negative feelings relevant to the potential consequence of such behavior.

Table 21 represents the feelings reported by participants at the time they made their decision about engaging in drinking. Feelings were placed in positive, neutral, and negative categories. The shift from negative to positive feelings noted in the pre-decision intervals continued to the time of decision interval. Eight negative feelings were identified accounting for responses by five participants while the remaining fifteen participants reported neutral of positive feelings. This shift in affect seemed to be related to the end of the work day or work event and a sudden anticipation of the evening events. There was no direct association made between feeling responses and anticipating any mood change by drinking. Individuals maintained a reference to choosing to drink rather than identifying any particular need to drink.

Actions described by participants at the time they made a decision about drinking are presented in Table 22. Individuals indicated multiple responses which were grouped

Table 21

Feeling responses at the time of decision to drink interval

Negative	Neutral	Positive
	*	
sick (physically)	relaxed (3)	happy (5)
worried (2)	good (2)	excited (3)
tired	anxious (2)	keyed-up
angry	satisfied	Better and better!
paranoid	normal	
bored	relief	
Did not want to be alone.	trying to unwind	
	Why not go to the party?	

* Figures represent the number of participants who identified these particular feelings. Feeling responses without parentheses should be interpreted as being identified by one participant.

Table 22

Acting responses at the time of decision to drink interval

Response Categories	Number of participants responding
Preparation for going out for the evening	5
Spontaneous drinking in bar	6
Socializing with friends	10
Competing in games (pool/darts)	6

into four categories. Five individuals indicated doing things in preparation to going out for the evening when they made a decision about drinking. Six individuals indicated a spontaneous drinking activity without pre-planning. Six individuals indicated they decided to drink while playing pool or playing darts and ten individuals indicated deciding to drink while socializing with friends.

A frequency distribution of the number of thinking, feeling, and acting responses shows, by count, participants identified more thoughts (n = 36) than feelings (n = 30) or actions (n = 26) at the time they made a decision about engaging in drinking. The difference between the number of feeling and acting responses was also smaller than the difference between the number of thinking responses and the number of responses from either of the other two variables. This finding was consistent with the mean results of the TFA Clinical Interview and the converted HBI scores. Again, references to thinking activities must include consideration of the context of those thoughts.

What were the TFA patterns of the study individuals determined by TFA Clinical Interview between days six and nine and between days twenty and twenty-three of their incarceration?

Interview data was collected from participants between days six and nine and between days twenty and twenty-three

after the start of their incarceration. Interview data was limited to those individuals who engaged in activities outside the prison during the period of their incarceration.

Data from sixteen of the twenty participants was analyzed for the six to nine day time interval. Most of these individuals had just returned to work after spending about four full days in jail due to inmate processing requirements. Three of these participants were interviewed during the last few days of the study which prevented data collection at the twenty to twenty-three day interval.

Six to nine day incarceration results. The TFA Clinical Interview was used as a method to examine behavior patterns of the participants at the six to nine day interval. Group means were calculated for thinking, feeling and acting scores.

The mean thinking score for this group at the six to nine day interval was 4.62. Thinking responses on the TFA Clinical Interview centered around four themes. Ten participants expressed thoughts about being in jail and requirements for work release. Five participants indicated thoughts about their work environment. Four individuals indicated they had experienced reflections about their drinking and tied the drinking to being in jail. Two individuals expressed concerns about seeing their girlfriends.

All sixteen participants were asked to determine a time since the beginning of their incarceration when they made a

decision about engaging in drinking. Ten of the participants indicated they had not thought about drinking since they were in jail. Individuals who could not determine a specific situation in which they made a decision about drinking were asked to reflect on a specific time they would have decided to drink had they not been incarcerated. These ten individuals chose to relate to the end of the workday as a general drinking decision-making time. The fact that so many participants did not consciously think about drinking suggests a lack of connection between the drinking behavior which led to their second DUI arrest and the reason for their incarceration.

The mean feeling score for this group at the six to nine day interval was 2.62. Feeling responses were indicated for a time the individuals made a conscious decision about drinking or an associated situation which would have had a drinking outcome. Feeling responses were placed into categories of negative, neutral, and positive (Table 23).

Nine individuals indicated negative feelings which were primarily associated with being in jail. A total of five different individuals indicated neutral or positive feelings however, many of these were associated with being able to get out of jail for a period of time.

The mean acting score for this group at the six to nine day interval was 2.25. Thirteen of the sixteen individuals

Table 23

Feeling responses at six to nine days after incarceration

Negative	Neutral	Positive
depressed (3) *	good (2)	Glad to get out of jail and go to work.
tired (3)	Relieved to get out of jail to go to work.	
hungry (2)		happy
desire to go home (2)	Nice to get out of jail for a while.	Look forward to seeing girlfriend.
resistance to going back to jail		
mad		
worried		
ready to go back to jail		

* Figures represent the number of participants who identified these particular feelings. Feeling responses without parentheses should be interpreted as being identified by one participant.

identified actions associated with going to work, working, or finishing work which is consistent with the identified specific situation. The participants' incarceration limited engagement in alternate activities.

Twenty to twenty-three day incarceration results. Thirteen participants were interviewed at this interval. Mean thinking, feeling, and acting scores were calculated from data collected from TFA Clinical Interview. Individuals were asked to relate to the situation during which time they made a conscious decision about drinking or to a time that drinking would have been a probable outcome had they not been incarcerated.

The mean thinking score at the twenty to twenty-three day interval was 4.15. Ten participants indicated thoughts associated with being in jail. Five individuals expressed thoughts about getting ready to go to work, working, or finishing work. Two individuals expressed concerns about friends or family and one individual identified thoughts about eating.

Nine of the thirteen individuals indicated no conscious thoughts about drinking. Additionally, those individuals who had indicated thoughts about drinking at the six to nine day interval did not indicate similar thoughts at this interval.

The mean feeling score at the twenty to twenty-three day interval was 3.23. Table 24 shows the feeling responses

Table 24

Feeling responses at twenty to twenty-three days after
incarceration

Negative	Neutral	Positive
tired (7) *	good (3)	Glad time in jail is running
wet	not as nervous	out.
uncomfortable	getting used to jail	Glad to get out to work.
frustrated		
depressed		Glad workday is over.
wore out		
exhausted		
regretting having to go back to jail.		

*   Figures represent the number of participants who
identified these particular feelings. Feeling responses
without parentheses should be interpreted as being
identified by one participant.

placed in negative, neutral, or positive categories. Nine individuals indicated negative feelings while a total of five individuals identified neutral or positive feelings.

The mean acting score at the twenty to twenty-three day interval was 2.62. The actions identified were associated with going back to jail or with working.

Summary of thoughts, feelings, and actions during incarceration.

Individuals in this study had a predominant thinking orientation while they were incarcerated. Thinking content focused primarily on the ramifications of being in jail and around vocational endeavors. Most of the individuals in this study indicated they did not have any thoughts about drinking.

The vast majority of feelings identified by the participants were negative feelings associated with being in jail. Missing from the identified feelings were references to remorse, guilt, disappointment or embarrassment about being arrested for a second DUI offense.

The actions identified by the participants focused on work related activities and transit to and from jail. Missing from these identified actions were references to any activities related to self-help or increasing personal awareness to drinking problems.

What was the TFA pattern of the study individuals
determined by HBI and TFA Clinical Interview thirty days after
parole with regard to their decision to engage in drinking?

Eleven participants completed all three interviews in
this study. The final interview was conducted thirty days
after the individual was paroled from jail and occurred in the
individual's home. An HBI and TFA Clinical Interview were
administered relevant to the most recent time the individual
made a decision about engaging in drinking.

Hutchins Behavior Inventory scoring results. HBI
weighted bipolar scores were converted to a nine-point
triangle by procedures discussed earlier in this chapter. The
resulting nine-point triangles are shown in Figure 4.

The mean thinking, feeling, and acting scores for the
group were 3.73, 3.18, and 3.55 respectively which resulted in
a T - A - F orientation. Nine of the eleven triangles had at
least one mid-point designated on one of the bipolar scales.
Both of the remaining individuals missed a mid-point on the T
- A bipolar scale by one acting choice response.

TFA Clinical Interview scoring results. The TFA triads
resulting from the TFA Clinical Interview are shown in Figure
5. Means calculated for thinking, feeling, and acting scores
were 4.09, 3.27, and 2.82 respectively. The behavior pattern
orientation for the group was T - F - A based on the rank
order of the calculated means. Six of the eleven patterns
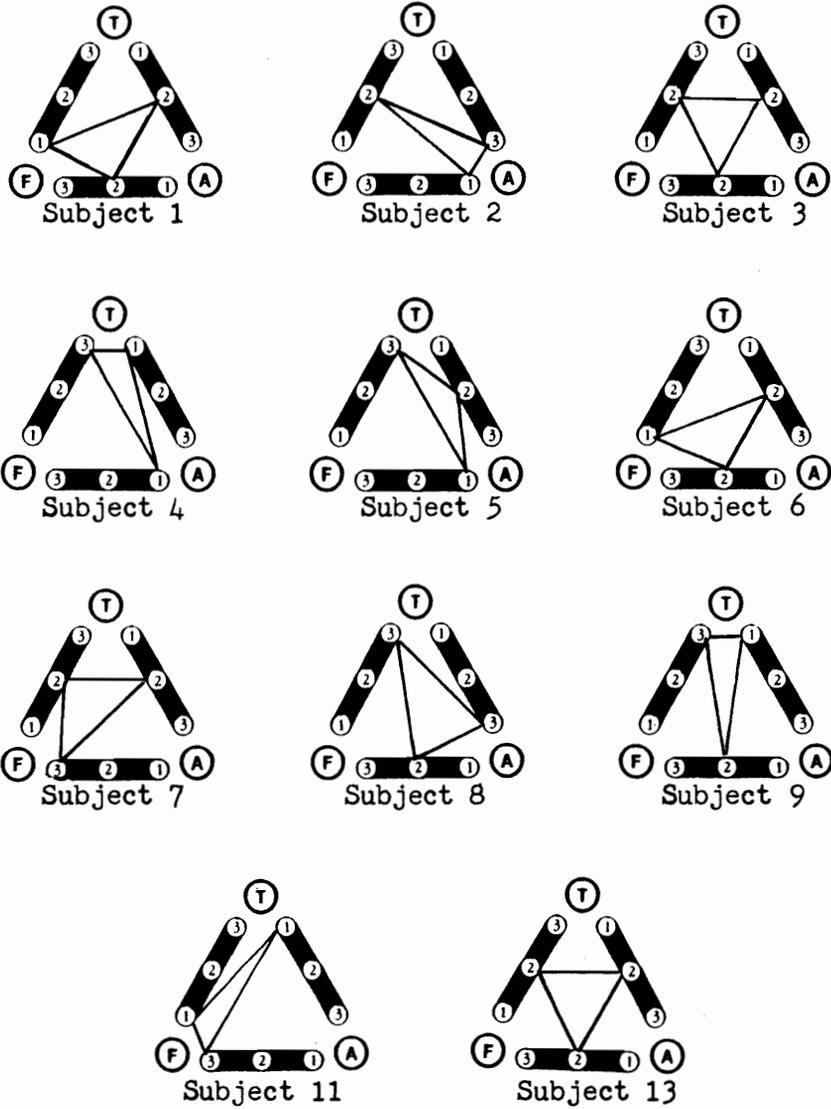
Figure 4. TFA patterns on HBI assessments thirty days after parole from jail
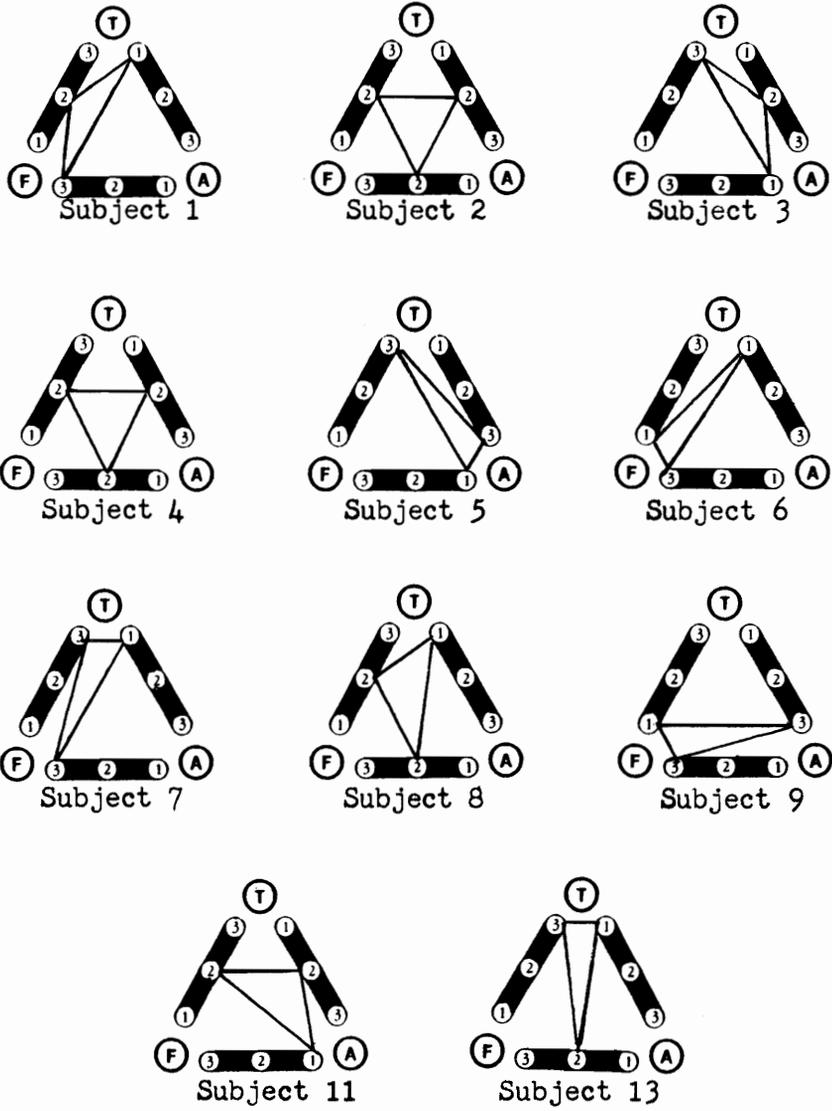
Figure 5. TFA patterns on TFA Clinical Interview thirty days after parole from jail

contained mid-point scores on one or more of the bipolar scales. Four of the TFA triads contained no mid-point scores.

   <u>Qualitative analysis of responses</u>.   The context of thoughts, feelings, and actions were analyzed relevant to the participant's most recent decision about engaging in drinking. Most of the participants (n = 6) indicated thoughts associated with planning activities for the evening or wondering what they would be doing after work. Some participants indicated thinking about work (n = 4) and work related activities. Five individuals identified thoughts about drinking. These thoughts included a desire not to drink, concern over not being able to drink with friends, plans to avoid drinking at a holiday party, wishing that drinking could be done, and actual plans to drink.

   Most of the participants identified negative feelings during this interview. Six individuals identified being either tired, hungry, or a loser. Five individuals indicated neutral or positive feelings.

   Work and work related events were identified by most of the participants as actions associated with the specific decision about engaging in drinking. Six individuals indicated getting ready for work, working, or finishing work as activities associated with this decision making time. Three other individuals indicated watching television as the action associated with this situation. Two individuals

indicated talking with friends or family as associated actions.

Behavior pattern analysis. Ordinal scale measurement data was collected from the scoring of nine-point TFA triads generated by the TFA Clinical Interview and the HBI. The TFA triads generated by the TFA Clinical Interview were used to analyze the behavior pattern changes of study participants across the following four intervals:

A.   At the time the individual made a decision to engage in drinking which led to their second DUI arrest,

B.   Between six and nine days after their incarceration,

C.   Between twenty and twenty-three days after incarceration, and,

D.   Thirty days after their parole from jail.

The HBI was only administered at the first and last of these intervals and did not provide insight into behavior patterns during incarceration. A comparison of HBI scores is provided later in this chapter.

Table 25 shows the means calculated across all four intervals from the scoring of the TFA nine-point triangle using data collected with the TFA Clinical Interview. These means show a consistent T - F - A orientation for the group.

The relative rank order of the thinking, feeling, and

Table 25

<u>Sample mean scores for thinking, feeling, and acting</u>
<u>responses on the TFA Clinical Interview at designated</u>
<u>intervals</u>

Interval	Thinking	Feeling	Acting
Time of decision	4.20	3.50	2.20
Six to nine days in jail	4.37	2.87	2.12
Twenty to twenty-three days in jail	4.15	3.23	2.62
Thirty days after parole from jail	4.09	3.27	2.82

acting means remained consistent over all four intervals. There was a difference in magnitude of the thinking mean at the six to nine day interval. The mean thinking value obtained at this interval (M = 4.37) was higher than the other obtained thinking means and well beyond the range of the other three mean scores. The mean feeling value obtained at this interval (M = 2.87) was lower than the other obtained feeling means.

Caution should be taken in considering the differences in mean values between the time of decision interval and the six to nine day interval. The time differential separating these two events was substantial. The average length of time between arrest date, correlated with time of decision, and sentencing date, correlated with the six to nine day interval, was 8.36 months.

The TFA triads obtained at the four intervals described above for the participants are represented in Appendix G. Empty triangles indicate individuals who did not complete that phase of the interview process due to time constraints of the study, refusal to participate in the final interview, or lack of opportunity to leave the jail during their sentence.

Appendix G shows that none of the participants maintained the same TFA behavior pattern over all four intervals. Some individuals showed similar patterns during some of the intervals. Subject 5 had the same TFA behavior pattern during

incarceration and at the parole interview. Subjects 2 and 3
had the same TFA behavior pattern at the twenty to twenty-
three day interval and at the parole interview. Subjects 5,
6, 7, and 9 had the same TFA pattern at the twenty to twenty-
three day interval as they had at the six to nine day
interval.

TFA patterns obtained from all participants by interval
are represented in Appendix H. Two observations were noted in
analyzing these patterns by interval. First, many of the TFA
triad patterns were represented by only two scored variables.
At the time of decision interval, sixty percent of the TFA
triads had one variable with a "zero" scored value. During
the two incarceration intervals, this percentage was ninety-
four and sixty-nine percent respectively. At the parole
interval, fifty-five percent of the patterns were in this
category.

The second observation was the near absence of
representation of the feeling - acting triad group throughout
this study. Only three of the sixty triangles obtained in
this study represented feeling - acting dimensions of behavior
with a latent or absent thinking component. This supports the
mean scores obtained which showed a heavy emphasis on
thinking.

Thinking responses over the four intervals showed some
expected pattern changes. At the time of decision, most of

the thoughts focused on drinking, planning to drink, or focusing on barroom activities. During incarceration, individuals focused attention on work, rules at the prison, and problems adapting to their new temporary living environment. At the parole interval, thoughts were once again focused on work and planning activities for the evening.

Feeling responses at the time of decision were primarily positive, supporting a decision to drink. While incarcerated, individuals expressed primarily negative feelings associated with being in jail and away from their families. At parole, more negative feelings than positive or neutral feelings were expressed with the source of the negative feelings being the work environment. This same pattern was noted in the pre-decision making intervals.

The action responses focused around work, friends, and watching television. As also noted in the pre-decision making period, there appeared to be a lack of constructive use of leisure time activities. None of the participants indicated any activities designed to foster sobriety.

Research Hypothesis Two (Question 4)

Incarceration has no impact on TFA patterns of DUI second offenders assessed by HBI and TFA Clinical Interview measured at the time when the decision was made to engage in drinking behavior which led to a second DUI arrest and at a time thirty days after their parole from jail.

Another focus of this study was determining how an individuals' behavior was influenced by incarceration. The TFA Clinical Interview and HBI provided the methods to analyze this impact on both a quantitative and qualitative level.

This question will be answered in the following manner. First, means obtained by TFA Clinical Interview and by HBI for the two intervals will be discussed, Second, each behavior component will be discussed with regard to quantitative and qualitative data. Finally, a summary will be provided which answers the question.

Thirteen participants were eligible to complete all three phases of the interview process. Of these, eleven completed all phases. The measure of the impact of incarceration focused on the responses of these eleven participants at two intervals in relationship to their decision to engage in drinking. These intervals were

        A.   at the time they made a decision to drink which led to their second DUI arrest, and

        B.   thirty days after their parole from jail.

Comparisons of TFA behavior patterns were made relevant to each assessment method. Figure 6 represents the behavior patterns determined by HBI assessment at the two intervals under discussion. The orientation of these eleven participants at both intervals was A - T - F. Figure 7 represents the behavior patterns generated from data collected

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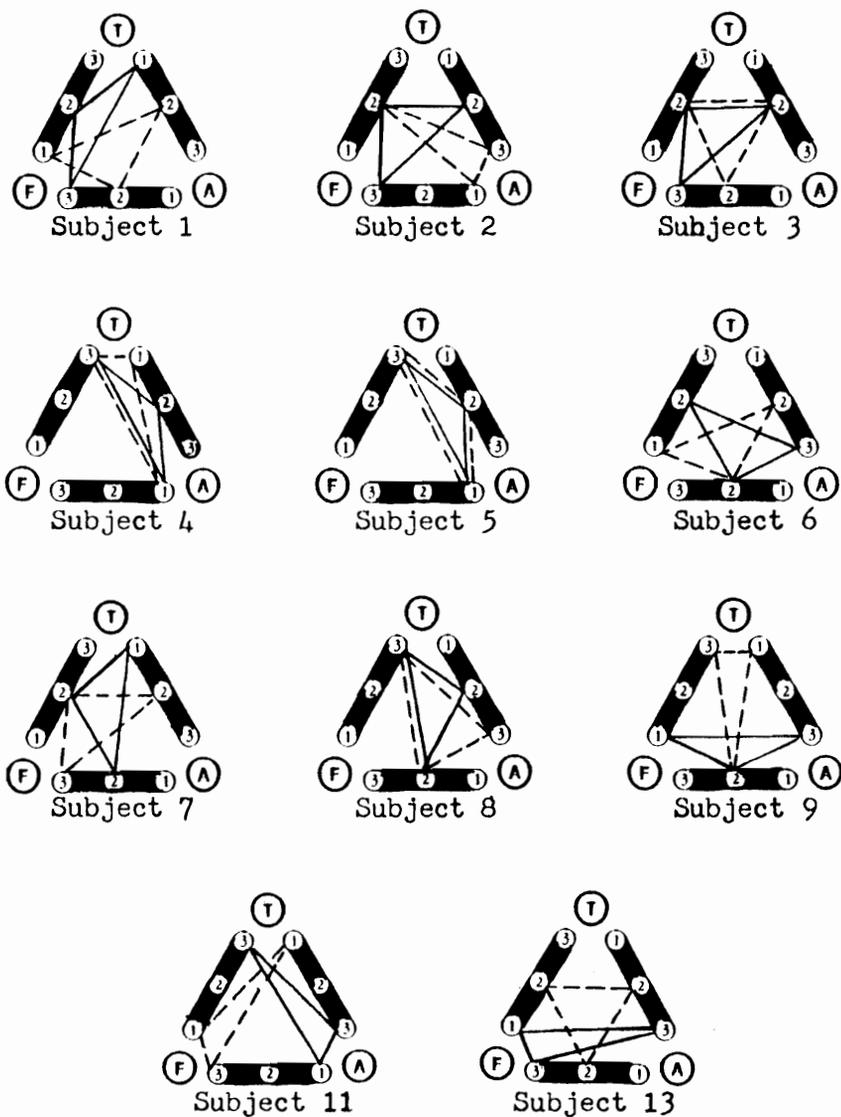
Key: ＿＿＿＿ Time of decision, ＿ ＿ ＿ ＿ ＿ Thirty days after parole

Figure 6. Participant behavior patterns assessed by HBI at the time of decision to engage in drinking leading to a second DUI arrest and at a time thirty days after their parole from jail
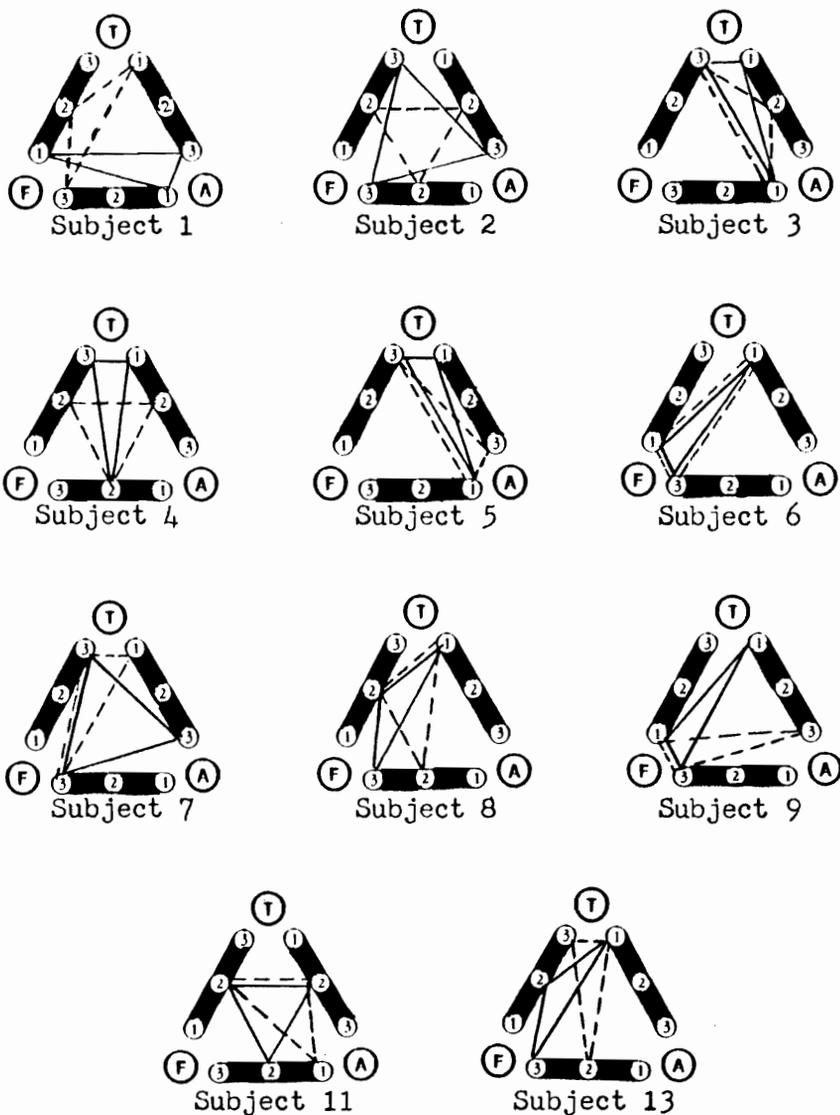
Key: _____ Time of decision, _ _ _ _ _ Thirty days after parole

Figure 7. Participant behavior patterns assessed by TFA Clinical Interview at the time of decision to engage in drinking leading to a second DUI arrest and at a time thirty days after their parole from jail

by the TFA Clinical Interview at the same intervals. The
orientation for these eleven participants at both intervals
was T - F - A.

Table 26 shows the mean scores for thinking, feeling, and
acting determined by HBI and TFA Clinical Interview for both
intervals. The range in mean scores for thinking, feeling,
and acting on the TFA Clinical Interview for both intervals
was greater than the range of mean scores for thinking,
feeling, and acting on the HBI assessment. This may be a
reflection of the difference between the two assessment
instruments. The HBI was an objective measure of behavior and
the TFA Clinical Interview involved an interaction between the
researcher and the participant. Other differences in these
assessment instruments are discussed in Chapter Five.

There is no difference in sample means of thoughts
assessed by HBI and TFA Clinical Interview determined at the
time of decision to engage in drinking behavior leading to a
second DUI arrest and thirty days after parole from jail. The
mean thinking scores obtained on the HBI at the time of
decision to engage in drinking which led to their second DUI
arrest are very similar to the mean thinking scores obtained
on the HBI thirty days after the participant was paroled from
jail. The mean thinking score after parole was .13 higher
than the mean thinking score at the time of decision to drink.
In both assessments the specific situation was described as

Table 26

Mean thinking, feeling, and acting scores on HBI and TFA
Clinical Interview at time of decision and parole interval

| | HBI Means | | |
Interval	Thinking	Feeling	Acting
Time of decision	3.60 *	3.15	3.65
Parole interview	3.73	3.18	3.55

| | TFA Clinical Interview Means | | |
Interval	Thinking	Feeling	Acting
Time of decision	4.20	3.50	2.20
Parole interview	4.09	3.27	2.82

* All means are calculated on eleven participants who
completed all three interview states.

the time they made a decision about drinking.

The similarity in mean thinking scores was also noted in the administration of the TFA Clinical Interview. The mean thinking score after parole was .11 lower than the mean thinking score at the time of decision to drink which led to the DUI arrest.

The thinking responses recorded during the TFA Clinical Interview were more closely associated with responses given by the total group of participants at the one-hour pre-decision interval of the retrospective study. Six of the participants identified thoughts relevant to planning for evening or weekend events, five identified thoughts about drinking, and four identified thoughts about work. Only one individual identified thoughts about family or friends.

<u>There is no difference in sample means of feelings assessed by HBI and TFA Clinical Interview determined at the time of decision to engage in drinking behavior leading to a second DUI arrest and thirty days after parole from jail.</u> Mean feeling scores obtained at both administrations of the HBI were very similar. The mean score at the time of decision was slightly lower (.03) than the mean obtained at the parole interview. The mean feeling score obtained on the TFA Clinical Interview at the time of decision to engage in drinking was .23 greater than the feeling mean score obtained at the interview conducted thirty days after the individuals

were paroled from jail.

The feeling responses obtained on the TFA Clinical Interview were most closely associated with the feeling responses obtained at the four-hour pre-decision interval. Six individuals identified negative feelings in relationship to the specific time they made a decision about drinking, and five individuals identified either neutral or positive feelings. The most common negative feelings identified were "tired" and "hungry" which were also common at the four-hour and eight-hour pre-decision intervals. Anxious, excited, and glad were identified as neutral or positive feelings at the parole interview and at both the four-hour and one-hour pre-decision intervals.

There is no difference in sample means of actions assessed by HBI and TFA Clinical Interview determined at the time of decision to engage in drinking behavior leading to a second DUI arrest and thirty days after parole from jail. The mean acting scores obtained by HBI were similar at both intervals. The mean obtained at the parole interval was .10 lower than the mean obtained at the time of decision intervals. The mean acting score obtained on the TFA Clinical Interview at both intervals was not as closely related as the other variables. The mean score obtained at parole was .62 higher than the mean score obtained at the time of decision interval.

The acting responses obtained on the TFA Clinical Interview were most closely associated with responses identified at the four-hour pre-decision interval. Work and watching television were the primary actions identified at the four-hour interval and at the parole interval.

Summary of the impact of incarceration on behavior patterns of study DUI second offenders. Both quantitative and qualitative assessment of data suggest little change in behavior patterns of study participants as a result of their incarceration. The context of thoughts, feelings, and actions, while not representative of the context of those variables at the time of decision, were similar to patterns found at specific pre-decision intervals.

During the final interview, four of the eleven individuals indicated they had returned to drinking at some level. This further supports a belief by this researcher that DUI offenders interpreted the DUI event as a legal issue and not necessarily as an indicator of a drinking problem. While incarceration may satisfy the public demand for action in dealing with the drunk driver, incarceration appears to have little or no influence on an individual's behavior.

CHAPTER FIVE

Findings, Conclusions, and Recommendations

Driving under the influence is a multidimensional problem influenced by many factors. Efforts to understand the DUI event have primarily been directed toward identifying specific psychometric, personality, or behavioral factors which identify drunk drivers and those prone to repeat DUI offenses from the general drinking and the general driving populations. Univariate and multivariate studies have failed to identify any one set of traits that would provide such a distinction.

This study focused on the DUI event as a series of interrelated behaviors culminating in risk-taking behavior. Considering the DUI event on such a continuum allowed for analysis of behavior patterns at various intervals preceding alcohol consumption as well as comparison of pre-drinking and post-incarceration behavior. Assessing behavior on both a quantitative and a qualitative level provided insight into the interaction of the individuals' thoughts, feelings, and actions relevant to decision making activities.

The remainder of this chapter will discuss the findings, present conclusions, and provide recommendations relevant to the DUI second offender. Information is presented to suggest that continuing current methods of addressing the DUI problem

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of repeat offenders using a "one-size-fits-all" model is inadequate.

Study Findings

Heterogeneity

This study supported the literature indicating the heterogeneous nature of the DUI population (Beerman et al., 1988; Bradstock et al., 1987; Donovan and Marlatt, 1982; and Snow and Anderson, 1987). Study participants differed in age, educational level of achievement, marital status, and socioeconomic status.

Age. Nine of the twenty participants in this study were under the age of twenty-eight. This finding supports two studies noted in the literature which found fewer DUI recidivists under the age of thirty (Beerman et al., 1988; Pisani, 1986).

On the surface, this study does not appear to support FARS data regarding age of drinking drivers. FARS data collected over twenty years indicates that 20 - 24 year olds, as a group, have the greatest proportion of drinking drivers (Fell, 1990). The FARS data includes statistics on fatal accidents in which at least one of the drivers has a measurable blood alcohol concentration. Therefore, a person with a BAC of .02 who was involved in a fatal accident would be included in the FARS data but a person with a BAC of .02 would not be arrested for driving under the influence. When

limited to BACs of .10 percent or greater, 33.5 percent of the drivers involved in fatal crashes were between the ages of 20 and 25. This compared favorably to data collected in this study which found 25 percent of the participants to be between the ages of 22 and 25.

Educational level of achievement. Educational level of achievement was not consistent between the age groups of study participants. The younger age group (n=9) had only one member that had not completed high school or GED requirements. The older age group (n=11) had only four members who completed high school or GED requirements. Seven of the nine younger participants indicated involvement in vocational education programs while in school as compared to four out of eleven of the participants in the older age group. Such programs were not as available in this geographic region when the older participants were in school. The difference in educational achievement for the study participants by age reflects an involvement in vocational programming rather than an attitude toward education.

Marital status. Diversity was also noted in marital status of study participants. Eight were in relationships, either formal or informal, and twelve were single, or divorced and living with family members.

Nine of the participants had experienced divorce at least one time. This rate is consistent with the divorce rate of

nearly 50 percent in the U.S. population as a whole.

Socioeconomic status. Sixteen of the twenty participants were employed at the time the study was conducted. The other four participants had lost their jobs as a result of being incarcerated. Nineteen of the participants in this study were blue-collar workers which supports other studies in the literature which showed an overrepresentation of this occupational status (Selzer, Vinokur, and Wilson, 1977). Younger workers tended to work in the building trades industries and older participants were factory workers. Job change within both age groups was along horizontal lines rather than toward higher paying, higher status occupations.

Drinking Factors

Alcoholism versus problem drinkers. Four of the study participants initially met the DSM-III-R criteria for a diagnosis of alcoholism. In evaluation of the content of the criteria statements, eighteen of the participants failed to identify drinking and driving as a hazardous situation. By adjusting the responses for this one answer, ten of the participants met the criteria for alcoholism.

The use of the DSM-III-R criteria as a self-assessment tool proved to be of questionable value in this study. The limitation on the use of this criteria was the lack of verification of the responses. The limitations of a self-report hinge on the willingness of the individual to assess

their behavior from several perspectives. Use of examples of each criteria may have resulted in a more accurate reflection of the prevalence of alcoholism in this sample.

This study included individuals who were diagnosed alcoholic and those who were problem drinkers. This supports the literature which suggests alcoholics and drunk-drivers are not the same population, but they are also not mutually exclusive (Vingilis, 1983).

Increased tolerance to alcohol. BAC level is a primary factor in determining tolerance to the effects of alcohol consumption. The BAC level of the study group at the time of their second DUI arrest was higher than the level measured at their first offense. This supports other research found in the literature which indicated increases in BAC levels by DUI arrest (Beerman et al., 1988).

A higher BAC level does not necessarily signal increased driving impairment. The National Highway Traffic Administration (1989) acknowledged that some individuals could control impairment at BAC levels as high as .20 percent. As an individual's tolerance to the effects of alcohol increases, behavioral indicators signaling intoxication decrease. Therefore, a person with a BAC level of .18 percent may not experience the same behavioral impairment as they did some time earlier in their drinking history when their BAC level was .10 percent.

Planned drinking-behavior. An examination of the thinking, feeling, and acting responses recorded on the TFA Clinical Interview during the pre-decision intervals indicate that the drinking experience associated with the DUI event was planned. A shift in thoughts about work to planning for evening events involving drinking was noted four hours before the decision was made about drinking.

A shift in feelings from negative to neutral or positive was noted at the one-hour pre-decision interval. Feelings identified were closely associated with the anticipation of socializing, drinking, and participating in barroom activities such as pool and darts. Social interaction was the primary motivation for the single and divorced individual to be in a bar.

Work and work related activities remained the focus of actions in the pre-decision intervals. These participants maintained regular work schedules and considered employment important. There was a lack of reference to leisure time activities which did not involve drinking or socializing.

None of the participants in this study planned to get arrested for DUI but most planned to drink. This group was committed to drinking. Thoughts of socializing and drinking contributed to positive feelings of anticipation and excitement which resulted in participating in the drinking event. The lack of representation at the time of decision to

engage in drinking of TFA triads in which only feeling and acting dimensions were scored supports the position that the drinking episodes are not spontaneous or a simple reaction to particular stimuli.

Driving Variables

Previous driving record.   Fifteen study participants indicated citations for moving traffic violations in their driving histories other than their arrests for DUI offenses. This is consistent with other studies cited in the research which suggests DUI offenders accumulate deviant driving records (Hissong and Howland, 1990; Perrine et al., 1988). Driving record information was gathered from self-reports of the study participants with no immediate method of verification for accuracy.

Records at the county probation office were accessed to extract certain arrest data from the police reports on file. In searching through the files for data for this study, numerous references were made to probation for commission of other offenses. The limitation of previous offenses to those involving the use of a motor vehicle may have been too restrictive.

Time of day and day of week. Time of day and day of week data indicated a predominant weekend-late night pattern of arrest for both DUI events. This is consistent with other

studies in the literature (Beerman et al., 1988; Voas, 1985).

Participants in this study, as a group, failed to adjust their drinking and driving patterns for periods of high police surveillance. Knowing the consequences of a second DUI offense and knowing that police patrols are more active on weekends failed to result in change in drinking and driving behavior for this group.

Perception of the DUI Event

First offenders program. All participants in this study were required to attend DUI school as part of their sentence for their first DUI arrest. Participants indicated the school provided them with information regarding the impact of alcohol on the body, presented information regarding high profile times for drunk driving arrests, and suggested alternatives to driving after drinking.

Participants in this study considered the first offenders program as informative but claimed it did not directly influence their drinking behavior. The subsequent twelve month probation was usually unsupervised and focused on collecting fines leveied by the court.

Perceived probability of getting caught for a second DUI offense. Participants in this study indicated a low perceived probability of arrest for a second DUI offense. External factors contributing to this perception included better vehicle maintenance, using back roads to go home after

drinking, avoiding known police patrol areas, driving more cautiously after drinking, and not drinking on an empty stomach.

Study participants contributed their arrest to "bad luck" or poor driving conditions. Individuals mentioned other drinking and driving episodes in which they considered their driving skills more impaired but for which they were not arrested. None of the participants expressed concern that they made a decision to operate a motor vehicle while under the influence of alcohol.

<u>Consideration of consequences of second DUI arrest</u>. Participants in this study did not consider the consequences of a second DUI arrest prior to engaging in drinking, prior to driving having consumed alcohol, or while driving under the influence. This lack of consideration was attributed to a perceived low probability of detection, confidence in driving skills while under the influence of alcohol, and an anticipated positive reward from drinking and socializing.

The drinking and driving episode for which the participants were arrested was not an isolated incident. Individuals in this study indicated a habitual pattern of drinking and driving. Eight individuals were involved in accidents which resulted in charges of DUI. The other twelve participants could not isolate any conditions which would have made the event for which they were arrested different than

other times they drove while intoxicated but were not arrested.

Behavior Patterns of DUI Second Offenders.

Behavior patterns leading to the decision to drink. Participants in this study were asked to reflect on the eight-hour time frame immediately before they made a decision to engage in drinking. The TFA Clinical Interview was used as the instrument to collect both quantitative and qualitative data.

Participants in this study were primarily thinking oriented during the pre-decision period. The nature of thoughts shifted from a focus on work related activities at the eight-hour interval to planning for the evening events involving drinking at the four-hour and one-hour intervals.

Feelings shifted from negative associations with work to neutral or positive feelings associated with the perception of a favorable drinking experience with others. Work and work related activities remained the focus of actions in the pre-decision intervals and there was a lack of reference to leisure time activities which did not include drinking or socializing.

It should be noted that thinking, feeling, and acting variables are interdependent and that the significance of analyzing behavior patterns lies in the interaction of these variables. Work related activities resulted in thoughts of

work and feelings of boredom and being tired. Thoughts of socializing and having fun with friends generated feelings of anticipation and excitement.

Behavior patterns at the time of decision to engage in drinking. At the time the decision was made to engage in drinking behavior, this group was thinking oriented. Examination of the TFA triads on the nine-point triangle generated by the HBI and TFA Clinical Interview showed thinking responses to be a dominant characteristic. Thinking responses were primarily focused on socializing, participating in activities at a bar, and planning to drink. These thoughts were supported with positive feelings associated with the anticipated drinking experience.

No actions were initiated to interfere with the process of socializing and drinking. Some individuals indicated some planning efforts to keep from driving. These efforts included planning to spend the night at a friend's house where the drinking was taking place or assigning driving duties to another person. There were no efforts to keep from drinking.

Behavior patterns during incarceration. Individuals in this study maintained a thinking orientation during their incarceration. This orientation was measured by responses on the TFA Clinical Interview. Thinking responses focused on being in jail and work related activities.

Feeling responses during incarceration were primarily

negative relating to work and being in jail. Acting responses were focused around work activities.

These participants failed to connect drinking with their incarceration. Participants indicated that they did not have conscious thoughts about drinking during their incarceration. None of the participants indicated thoughts connected with possibly having a drinking problem. None of the participants identified any feelings of remorse or guilt about being in jail and none of the participants indicated any activities associated with initiating strategies to keep from drinking.

Behavior patterns thirty days after parole from jail. TFA triads generated by the HBI and the TFA Clinical Interview were used to examine the behavior patterns of the eleven participants who completed the study thirty days after their parole from jail. Both instruments reflected a primary thinking orientation for these participants. The nature of the thoughts focused on work, planning for the evening and drinking situations. Feeling responses were primarily negative and related to the work environment and the acting responses focused on work, friends, and watching television. These thinking, feeling, and acting responses were similar to responses found at the pre-decision intervals.

DUI and Incarceration

Participant perception of impact of incarceration on first offenders. Participants in this study indicated that

incarceration for their first DUI offense might have influenced their decision about drinking and driving. This belief is in direct contrast to studies in the literature which found worse conviction records and crash records for those individuals incarcerated for DUI offenses (Tashima and Peck, 1986; Salzberg and Paulsrude, 1984; and Voas, 1985). This belief also contrasts with the findings in this study which indicate that incarceration had no impact on behavior patterns of the study participants.

Impact of incarceration on study participants. The impact of incarceration on behavior patterns of study participants was measured by comparing the HBI and TFA Clinical Interview at two interview states.

The behavior orientation of participants at the time of decision to drink measured by HBI was A - T - F. The behavior orientation measured by HBI thirty days after parole was T - A - F. These behavior orientations were determined by ranking mean thinking, feeling, and acting scores at both intervals.

The feeling mean scores obtained at both intervals differed by only .03 and these scores were clearly distinguishable as lesser values than the thinking or acting mean scores. The mean thinking and acting scores at the time of decision and thirty days after parole differed by .05 and .18 respectively. Such close proximity of mean thinking and acting scores can influence the rank order of means by only

one or two response choices on the HBI.

An examination of the TFA behavior patterns and the thinking, feeling, and acting responses obtained on the TFA Clinical Interview provided a more comprehensive assessment of the impact of incarceration. The relative order of the thinking, feeling, and acting means were the same at the time of decision interval and at the parole interval. Mean values for thinking and feeling scores were similar at both intervals with acting being somewhat more elevated at the later interval. This group of participants also identified many of the same thoughts, feelings, and actions associated with pre-decision and time of decision interval responses.

Similarity of means and context of thinking, feeling, and acting responses measured on the same instrument at two different intervals relevant to the same situation indicated that incarceration had no impact on behavior pattern change for these participants. Four of the eleven participants indicated, during their final interview, that they had returned to drinking. This is a further indication of the ineffectiveness of the use of incarceration to address the DUI problem.

Instrumentation

Use of the Hutchins Behavior Inventory. The HBI provided an objective measure of behavior. A normalizing of the HBI scores was noted in the high number of the TFA triads with

mid-point scores on one of the bipolar scales.

The choice of words used on the HBI and the corresponding educational level of the participants may have contributed to this normalizing effect. Due to anticipated difficulty with the understanding of the words used on the HBI, definitions of the words were made available to the participants while they were completing the instrument. This intermediate process of analyzing each word and then choosing which applied most appropriately to the situation may have affected the scores.

Use of the TFA Clinical Interview. The TFA Clinical Interview was a useful instrument to show both quantitative and qualitative behavior changes. This self-assessment measurement included the interaction of the researcher and the participant. Use of this instrument provided the opportunity to look at the DUI event on a continuum, identified a "window of opportunity" for intervention during early incarceration, and supported the conclusion that incarceration had no effect on behavior pattern change with regard to deciding to engage in drinking for this sample of DUI second offenders.

Participant recall of pertinent date. In many cases, the interviews for this study were conducted nearly a year after the individual had been arrested for their second DUI offense. With such a time differential, the accuracy of responses regarding recall of specific thoughts, feelings, and actions surrounding the DUI event may be questioned.

Several factors influenced the accuracy of recalled data. First, as part of the process for sentencing, participants were required to meet with a probation officer to complete a CRN report. This meeting occurred several weeks before sentencing and the first study interview. Included in this meeting was a recapitulation by the offender of the events in the twelve hours before their arrest for their second DUI offense. Offenders were also presented with the content of the Affidavit of Probable Cause completed by the arresting officer at the time of arrest.

A second factor influencing the recall of events was the emphasis placed on specific thoughts, feelings, and actions at designated time intervals preceding the decision to drink. Individuals were required to focus their attention on the reconstruction of events at four specific times rather than summarizing the events of the whole day.

A third factor influencing data recall was the use of a forty minute film depicting six drinking scenarios. The drinking episodes presented suggested reasons by people engage in drinking and included the following:

A. Marital stress,

B. Focus on resentments,

C. Depression,

D. Peer influence,

E. Alleviating physical withdrawal symptoms, and

F.   Drinking ambiance.

This film was shown immediately before the individual was asked to focus on their thoughts, feelings, and actions relevant to the time they made a decision to engage in drinking behavior.

Participants were able to recall thoughts, feelings, and actions associated with their second DUI arrest. During the eight-hour interval and the four-hour interval, individuals generally cited thoughts, feelings, and actions they would have been experiencing. At the one-hour and time of decision intervals, individuals indicated thoughts, feelings, and actions they were experiencing. Participants also indicated identification with one or more of the drinking vignettes presented in the film as contributing to their overall drinking pattern or their drinking attitude prior to their arrest for their second DUI offense.

Summary of Findings

The following is a list of the findings which emerged from this study.

1.   DUI second offenders are a heterogeneous group and defy description with any one variable or single set of variables.

2. More DUI recidivism occurs in the driving population over the age of thirty.

3.   Younger DUI second offenders tend to be high school

graduates with some vocational training. The vocational training programs offered ease of access to the technical job market.

4. Marital stability and long-term relationships are not characteristic of the DUI second offender group. To what extent alcohol contributes to this instability is unknown.

5. Blue-collar occupations are overrepresented in the DUI second offender population. Job mobility is along horizontal lines. The degree to which alcohol consumption contributes to job mobility or motivation toward higher status jobs is unknown.

6. The DUI second offender population is comprised of alcoholics and problem drinkers. The use of self-assessment instruments for determining a diagnosis of alcoholism without a method of verification of responses is questionable.

7. Higher BAC levels at second arrests indicate an increased tolerance to the effects of alcohol for the DUI second offender. Higher BAC levels at the second arrest also suggest participants did not reduce their alcohol consumption as a result of their first DUI arrest.

8. Drinking is a planned event for the DUI second offender. Contributing to the cognitive activity are general feelings of acceptance and reward from socializing activities. Other leisure activities are not considered as favorable alternatives to the drinking behavior.

9. While previous driving record gives some indication of deviant behavior, an overall evaluation of criminal activity is necessary to determine the DUI second offender's attitude toward rules and laws in general.

10. Weekends and late nights continue to be major times for DUI arrests. DUI second offenders in this study did not alter their drinking and driving behavior significantly with regard to time of day and day of week variables as a result of their first DUI arrest.

11. First offender programs provide information about legal consequences of the DUI event, impact of alcohol on the body, and alternatives to driving after drinking. Repeat offenders do not interpret their first DUI arrest as an indicator of a possible drinking problem.

12. Participants in this study perceived a low probability of being arrested for a second DUI even though drinking and driving was a regular activity. Arrests were contributed to "bad luck" or poor driving conditions.

13. The educational material presented in first offender programs regarding consequences for subsequent DUI arrests was not considered prior to engaging in drinking, before driving after drinking, or while driving under the influence.

14. Behavior patterns prior to making a decision to engage in drinking behavior are thinking oriented but the nature of those thoughts are focused on work and planning to

drink. Positive feelings associated with an anticipated favorable drinking experience reinforce the thinking process.

15. A continuation of the planning of the drinking event culminates in a decision to engage in drinking. This thought process generates a reward cascade of feelings which supports the decision. Alternatives to drinking are not considered.

16. Behavior patterns of incarcerated DUI offenders show a thinking orientation with the nature of the cognitive process being directed to focusing on work. Behavior patterns suggest a "window of opportunity" for effective intervention during early incarceration. Offenders fail to connect problems with drinking to their incarceration.

17. Behavior patterns thirty days after parole from jail are similar to patterns in pre-decision intervals. Context of thoughts, feeling, and actions are also similar.

18. Participants in this study believed that incarceration for their first offense might have encouraged them not to drink and drive. Such a position is not supported in the literature or in this study.

19. Incarceration had no effect on behavior pattern change of participants in this study measured by HBI and TFA Clinical Interview.

20. HBI scores were normalized by providing definitions for the words used on the instrument.

21. The TFA Clinical Interview was a useful instrument

in assessing the behavior patterns of DUI second offenders. Analysis of both quantitative and qualitative measures was necessary to show behavior pattern changes.

22. Study participants were able to recall data relevant to their arrest for a second DUI.

Study Conclusions

The following conclusions are drawn from the findings in this study.

Drinking and Driving

DUI as a continuum. For the participants in this study, the drinking event which resulted in their arrest for a second DUI was a planned activity which was socially rewarding and perceived by the individual as relatively safe. Indicators of potential negative outcomes were ignored throughout the planning process in favor of the anticipation of a positive drinking experience.

Efforts to address the DUI problem need to focus on the behavior patterns of the individual prior to their decision to drink. The interaction of thoughts, feelings, and actions need to be explored to determine how each, independently, and in concert with the others, contributes to the decision making process.

Minimizing losses. Participants in this study considered the probability of a second arrest as low and did not consider

the danger or legal consequences of drinking and driving. Having been arrested for one DUI offense and provided with information regarding the consequences of a second offense, individuals in this study drank more and continued to drink and drive during high police surveillance times.

Drinking and driving will continue until such time the individual considers such behavior too costly. These costs can be measured in terms of freedom, family relationships, finances, career aspirations, reputation or health. The DUI repeat offender represents an individual who has been made aware of a drinking problem but maintains enough power and control to minimize losses. The extended delays in processing of DUI cases, the reduction of a first offense to an education program and probation focused on collecting fines, and a routine minimum jail term with work release provisions for DUI second offenders contributes to their ability to minimize consequences of their behavior.

Characteristics of the DUI Second Offender

Self-esteem. Instability in marital relationships, frequent job changes within the same blue-collar occupational status groups, and problems with formal education were characteristic features of these DUI second offenders. This group experienced failure in many different life situations. Daily routines are directed toward meeting basic needs rather than focusing on long-term goals and objectives. This group

knows that they can function successfully on a social level in a drinking environment.

Thinking orientation. The participants in this study had behavior patterns with a primary thinking orientation. The nature of the thoughts focused on work and planning drinking events rather than consideration of the cause-effect relationship between drinking, a second DUI arrest, and incarceration. A reward cascade of feelings at the time of decision supported the decision to drink.

The individuals in this study were concrete thinkers. They compartmentalized data and failed to consider alternative activities or consequences to their behavior. The habitual drinking behavior and exposure to a drinking environment which was socially rewarding continued to reinforce repeat performances. The DUI event for which they were arrested was only one of a number of drunk driving episodes which suggests the same decision making process was used repeatedly.

Intervention Strategies

Individualized intervention for repeat offenders. The literature cites studies which describe the DUI population as heterogeneous. The characteristics of the participants in this study were sufficiently diverse to support the literature. Current DUI intervention strategies will work for some offenders, however, the "one-size-fits-all" approach will not be effective for all offenders.

Not all offenders have the ability to respond to the educational format provided in the first offender programs. Not all offenders consider the fines and costs to be inconvenient when payment plans can be developed. And, not all offenders consider going to jail for drunk driving as an indication of a drinking problem.

Second offenders and incarceration. This study and other studies cited in the literature indicate that incarceration does not impact on behavior change. Participants did not connect drinking to the reason for their incarceration. For most, their period of incarceration commenced nearly one year after their arrest.

This study revealed a change in behavior patterns of inmates during early incarceration. The first few days of incarceration might be a critical intervention time to focus on specific events which led to a second DUI arrest and a subsequent jail term.

Individuals incarcerated for their second DUI offense do not necessarily feel the full impact of incarceration. Most are placed on work release and permitted to leave the prison for extended periods of time during the day. Most DUI offenders are released after serving thirty days of a one-to-twenty-four month jail sentence. These established procedures minimize the impact of incarceration and send the message that the DUI offense is not as serious as other offenses.

Instrumentation

The Hutchins Behavior Inventory. The Hutchins Behavior Inventory provided an objective, quantitative assessment of participant behavior at two specific intervals in the study relevant to their decision about engaging in alcohol consumption. While the rank order of mean scores obtained on the behavior variables are somewhat different at the intervals tested, it should be concluded that the measures obtained by HBI are more similar than they are different.

The TFA model and behavior patterns of DUI second offenders. The TFA Clinical Interview and the HBI provided the opportunity to assess behavior patterns of DUI second offenders at several intervals during their incarceration and after their parole from jail. The TFA Clinical Interview proved to be an effective instrument in assessing behavior on both a quantitative and qualitative scale. The HBI provided an objective quantitative assessment of behavior.

Quantitative and qualitative behavior assessments before and after incarceration supported the major conclusion of this study that incarceration had no effect on behavior pattern change. Participants in the study believed incarceration for their first DUI offense might have influenced their behavior. This belief is not consistent with results of other studies found in the literature, results of this study, or evidence indicating that four of the eleven participants who completed

the study had returned to drinking.

Recommendations

Five recommendations emerged from the conclusions in this study. First, the intervention program for first offenders needs to be restructured to include a variety of intervention strategies to more adequately address the individual differences in the DUI offender population. The focus of the first offenders' program needs to be more clearly focused on preventing DUI rather than preventing recidivism. Emphasis needs to be placed on the fact that the drinking and driving event is a series of events which include a series of behavior patterns. Information gathered on the CRN needs to be integrated into an intervention strategy based on individual needs rather than the needs of the program. The drinking - reward cycle needs to be addressed as a major influence impacting on the DUI event. Individual learning styles need to be considered in the development of educational programs.

Second, assessment of the DUI offender needs to be comprehensive leading to an individualized intervention strategy. DUI repeat offenders need to be exposed to intervention strategies which explore life problems other than the legal issues surrounding the DUI event. Individual attitudes toward rules and laws in general need to be explored. Leisure time activities need to be explored to determine the connection between drinking and socialization

skill development. Behavior patterns leading to the decision to drink need to be integrated into an overall assessment of the individual offender. The TFA Clinical Interview could provide access to significant data which would be helpful in understanding the complex nature of each DUI event as well as being useful in developing individual intervention strategies. The TFA model could be taught to offenders so that they could more fully understand their behavior and institute appropriate changes.

Third, current laws regarding the disposition of DUI cases need to be evaluated and changed. Studies continue to support the position that incarceration of DUI offender is not effective in reducing recidivism or crash involvement. Efforts need to be directed toward identifying what works to reduce DUI rather than what works to satisfy public demand. Intervention strategies for DUI offenders need to be based on results of formal assessments rather than being mandated by legislation.

Fourth, current methods of dealing with DUI repeat offenders need to be changed. Disposition of the cases needs to be in closer proximity to the offense. Work release needs to be considered a privilege which is earned according to established criteria. In-house intervention programs need to be developed which help to reinforce the connection between drinking and incarceration. Use of minimum sentences needs to

be evaluated for effectiveness.

Fifth, the relationship between scores obtained using the HBI and those scores obtained using the TFA Clinical Interview needs further research. This study, and other studies utilizing the TFA model, suggest that a relationship exists between the two instruments. The nature of that relationship needs further clarification.

Study Implications

The impact of the limitations recognized in Chapter One on this study was minimal. The TFA Systems (tm) was a useful method to obtain quantitative and qualitative data relative to the participants' decisions about engaging in drinking behavior. Responses from the participants throughout the study were consistent and did not represent efforts to influence the researcher.

Participants became familiar with the TFA Clinical Interview format using the triangle configurations. This led to their clarification of thoughts, feelings, and actions as the interviews progressed. The participants did not show any indications of test familiarity with the administration of the Hutchins Behavior Inventory at the parole interval.

The geographical limitations may have had some impact on this study. The rural nature of the region supports few adult social activities which do not involve drinking. Of these alternatives, most are church related. The location of the

study may have also influenced the lack of any minority representation in the study sample.

Time constraints of the study may have impacted on the overall conclusions regarding the effect of incarceration on behavior patterns of DUI second offenders. The final interviews of this study were conducted thirty days after the participants were released from jail while the experience of their incarceration was still vivid. Follow-up interviews of six months and one year would be warranted.

The results of this study encourage changes to the existing intervention strategies imposed on DUI offenders by the legal system, recommend implementation of counseling strategies based on the individual needs of the DUI offender, and suggest areas for future research.

Legal Implications

1. Individual differences within the DUI population provide support to diversify DUI intervention strategies. Educational programs need to be adapted to the special needs of the offender if learning is to be accomplished. The first offenders program focuses on education (thinking) which did not work for this group.

2. An increased emphasis on drinking behavior for first offenders needs to be integrated with a more intensive probation monitoring system. The first DUI offense should not be subject to interpretation as simply a legal event and

probation efforts need to be focused on more than collecting of fines and court costs.

3.   Incarceration does not address the issues contributing to the DUI event. Incarceration places the DUI second offender in an environment with others who display deviant behavior. Incarceration does nothing to encourage development of more constructive leisure time pursuits and does nothing to help the individual more fully understand how their thoughts, feelings, and actions have contributed to their incarceration.

Counseling Implications

1. The TFA Clinical Interview provided the opportunity to examine factors influencing decision making behavior. DUI offenders need to understand how their thoughts regarding the drinking episode negate consideration of possible consequences. The positive thoughts and feelings associated with the drinking event need to be identified as an indicator of potential risk rather than reinforcement.

2. The social environment surrounding the drinking event needs to be evaluated in terms of needs gratification. Individuals continue to place themselves in high-risk situations without accurately assessing the nature of the risks involved.

3.   This group gave no indication of leisure time activities other than those associated with a drinking event.

Counseling efforts need to be directed toward alternate forms of social events which provide the same degree of reward as does drinking in bars.

4. Stability in relationships and employment conditions need to be addressed as self-esteem issues. Increasing motivation to improve quality of life and social standing may make getting arrested an unacceptable outcome.

5. The method of information processing needs to be considered in any type of intervention. Counseling interventions need to be directed toward exploring cause-effect relationships rather than just presenting data of facts. Individual learning styles and abilities need to be considered in treatment interventions.

6. Resistance to changing behavior can be expected from the DUI repeat offenders. The second offender is being asked to change behavior which feels good, is socially rewarded by peers, and perceived as low risk. Focus on impaired driving ability while under the influence of alcohol may contrast significantly with the individual's perception of their ability to drive after drinking. The DUI event for which the individual was arrested needs to be connected to other undetected incidences of driving after drinking for which no consequences were assessed. A wide range assessment of the influence of alcohol consumption on all aspects of the individuals' lifestyle is certainly warranted.

Future Research

Other avenues of research emerged during this study which could contribute to existing knowledge. First, apply the TFA model of behavior assessment to other incarcerated populations to compare DUI offenders to other criminal offenders. Second, apply the TFA model of behavior assessment to female offenders to determine if differences exist along gender lines. Third, apply the TFA model of behavior assessment to other populations with substance abuse problems to determine similarities and contrasts with the DUI multiple offender population. Fourth, examine the emotional reward cascade associated with decision making to determine physiological and psychological changes which contribute to consequence mitigation. Fifth, examine effective alternatives to incarceration that focus on the cause-effect relationship of drinking and driving.

The TFA model was shown to be an effective method to access information relative to various decision intervals in this study. By discriminating between specific thoughts, feelings, and actions, the DUI event can be defined as a sequence of behavior patterns which accentuate positive short-term gains for long-term negative consequences. An alternative to incarceration of DUI repeat offenders is the development of effective intervention strategies which focus on changing individual drinking behavior.

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Appendix A

INTERVIEW SHEET FOR DUI REPEAT OFFENDER STUDY

(Questions with asterisk (*) extracted from CRN)

Participant Code # - _____

I. Demographic Information

    A. Date of Birth - _____

    B. Marital Status

        1. What is your current marital status?

            _____ a. Married

            _____ b. Live-in relationship

            _____ c. Divorced

            _____ d. Separated

            _____ e. Widowed

            _____ f. Single, never married and not in

                     live-in relationship

        2. With whom do you currently reside

        (relationship)? _____

        3.   How long have you maintained this current

        status? _____

        4. How satisfied are you with this status?

            _____ Very Unsatisfied

            _____ Unsatisfied

            _____ Satisfied

            _____ Very Satisfied

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5. History of previous significant relationships:

<u>Duration</u>   <u>Reason</u> <u>for</u> <u>Termination</u>

C. Educational Level of Achievement

   1. What was the highest grade you completed in school?

      _____ A. Graduate Degree

      _____ B. Undergraduate Degree

      _____ C. Partial College or Technical Training (1-3 years)

      _____ D. High School Graduate (do not include GED)

      _____ E. Partial high school (10th, 11th)

      _____ F. Junior High School (7th, 8th, 9th)

      _____ G. Less than 7 years (1,2,3,4,5,6)

   2. If you did not complete high school, have you received a GED? Yes No If so, when: _____

   3. What was your major course of study in school?

Graduate: _____

Undergraduate: _____

Technical Training: _____

High School: _____

   4. What special classes did you take in school?

_____

_____

5. Are you enrolled in an education program at this time?   Yes   No

   If so, what kind of program: _____

   _____

6. How would you rate your succes in school?

   _____ A. Very Poor

   _____ B. Poor

   _____ C. Satisfactory

   _____ D. Very Satisfactory

D. Socioeconomic Status

1. What is your current occupational status?

   _____ A. Employed full-time

   _____ B. Employed part-time

   _____ C. Unemployed

   _____ D. Laid off

   _____ E. Disability

2. How long have you been in this current occupational status? _____

3. When working, what work do you do? _____

   _____

4. What are the sources of income in your household?_____

   _____

5. What is the gross monthly household income?

   _____

6. How much disposable income is available on a monthly basis in your household?_____

7. How would you rate your satisfaction with your current job?

_____ A. Very Unsatisfied

_____ B. Unsatisfied

_____ C. Satisfied

_____ D. Very Satisfied

8. Work History: (Complete history)

Company	Duration	Job	Income	Reason for leaving

II. Drinking Variables

* A. What was your Blood Alcohol Concentration when you were arrested for your first DUI offense? _____

* B. What was your Blood Alcohol Concentration when you were arrested for your second DUI offense? _____

C. Which of the following apply to your drinking patterns:

_____ 1. I drink more and longer than I intended.

_____ 2. I would like to stop drinking or I have tried to stop in the past but have been unsuccessful.

_____ 3. A great deal of time is spent in activities necessary to get the alcohol, drink, or recover from its effects.

_____ 4. Intoxication or withdrawal symptoms interfere with major roles I am expected to fulfill at home, school, or at work or the use of alcohol is physically hazardous in the situation in which I am participating.

_____ 5. Important social, occupational, or recreational activities are given up or reduced because of alcohol use.

_____ 6. I continue to drink alcohol despite the knowledge of having a persistent or recurrent social, psychological, or physical problem that is caused or exacerbated by this behavior.

_____ 7. I need to drink increased amounts of alcohol in order to achieve intoxication or the desired effect, or I recognize a markedly diminished effect with continued use of the same amount.

_____ 8.   I have experienced withdrawal symptoms when I have stopped drinking for a period of time. (nausea, vomiting, weakness, tachycardia, elevated blood pressure, anxiety, depression, transient hallucinations, insomnia, headaches, delirium, or coarse tremors of hands, tongue, or eyelids).

_____ 9.   I often drink alcohol to avoid or relieve withdrawal symptoms.

III. Driving Variables

* A.   What day of the week were you arrested for your first DUI? _____ Date: _____

* B.   What time of day were your arrested for your first DUI? _____

* C.   What day of the week were you arrested for your second DUI? _____

* D.   What time of day were you arrested for your second DUI? _____

  E.   For what other moving traffic violations have you been arrested? _____

Violation   Date   Outcome

F. What were the consequences of your first DUI offense? _____

G. When were the conditions of your probation for your first DUI offense satisfied? _____

H. What did you consider to be the probability of getting caught for a second DUI offense? _____

_____

I. Did you consider the consequences of a second DUI arrest prior to your engaging in drinking behavior which led to this arrest?   Yes   No

If Yes, what were your thoughts, feelings, and actions?

Thoughts   Feelings   Actions

J. Did you consider the consequences of a second DUI arrest prior to driving under the influence?

           Yes   NO

If Yes, what were your thoughts, feelings, and actions?

Thoughts   Feelings   Actions

K.   Did you consider the consequences of a second DUI arrest while driving under the influence?

Yes   No

If yes, what were your thoughts, feelings, and actions?

<u>Thoughts</u>   <u>Feelings</u>   <u>Actions</u>

IV.   TFA Decision Qualifiers (Retrospective Study)

A.   On the day that you were arrested for your second DUI offense, at what time did you decide that you would be drinking? _____

B.   Eight hours before you decided to engage in drinking, how would you describe your behavior?

<u>Thoughts</u>   <u>Feelings</u>   <u>Actions</u>

C.   Eight hours before you decided to engage in drinking, were you more:

Thinking or Feeling or in the middle?

Feeling or Acting or in the middle?

Thinking or Acting or in the middle?

D. Four hours before you decided to engage in
drinking, how would you describe your behavior?

<u>Thoughts</u>   <u>Feelings</u>   <u>Actions</u>

E. Four hours before you decided to engage in
drinking, were you more:

    Thinking or Feeling or in the middle?

    Feeling or Acting or in the middle?

    Thinking or Acting or in the middle?

F. One hour before you decided to engage in drinking,
how would you describe your behavior?

<u>Thoughts</u>   <u>Feelings</u>   <u>Actions</u>

G. One hour before you decided to engage in drinking,
were you more:

    Thinking or Feeling or in the middle?

    Feeling or Acting or in the middle?

    Thinking or Acting or in the middle?

H. At the time that you decided that you would engage
in drinking, which may be different than when the
drinking commenced, how would you describe your

behavior?

Thoughts   **Feelings**   **Actions**

I.   At the time that you made the decision to engage in drinking, which may be different than when drinking started, were you more:

       Thinking or Feeling or in the middle?

       Feeling or Acting or in the middle?

       Thinking or Acting or in the middle?

V.   TFA Triad (First Session - Incarcerated six to nine days)

A.   Did you drink today? _____

B.   At the time you made that decision, how would you describe your behavior?

Thoughts   **Feelings**   **Actions**

C.   At the time that you made that decision, were you more:

       Thinking or Feeling or in the middle?

       Feeling or Acting or in the middle?

       Thinking or Acting or in the middle?

VI. TFA Triad (Second Session - Two weeks after initial session, between days twenty and twenty-three after incarceration.)

A. Did you drink today? _____

B. At the time you made that decision, how would you describe your behavior?

Thoughts   Feelings   Actions

C. At the time you made that decision, were you more:

Thinking or Feeling or in the middle?

Feeling or Acting or in the middle?

Thinking or Acting or in the middle?

VII. TFA Triad (Last Interview - Five weeks after second Interview. Offender had been paroled from prison for 30 days.)

A. Did you drink today? _____

B. At the time you made that decision, how would you describe your behavior?

Thoughts   Feelings   Actions

C.   At the time you made that decision, were you more:

Thinking or Feeling or in the middle?

Feeling or Acting or in the middle?

Thinking or Acting or in the middle?

VIII.   Interview Observations and Significant Related
Information

A.   Think about your first arrest for DUI. What might
have worked to keep you from drinking and driving?

_____

_____

B.   Think of the time period after your first arrest
for DUI. What would have worked to keep you from
drinking and driving again? _____

_____

_____

_____

C.   Think of someone else you know who has been
arrested for a second DUI offense. What do you
think will stop this person from drinking and
driving again? _____

_____

_____

_____

Appendix B

CITATIONS SUPPORTING QUESTIONS USED ON THE

INTERVIEW SHEET FOR DUI REPEAT OFFENDERS STUDY

I. Demographic Information

   A. Age

   B. Marital Status

   C. Educational Level of Achievement

   D. Socioeconomic Status

      1. A Psychological Comparison of Drunken Drivers and Alcoholics, 1977

      2. Factors Associated with Motor Vehicle Accidents among Male Alcoholics, 1987

      3. Sociodemographic Characteristics and Drinking Locations of Convicted Drunken Drivers, 1988

      4. A Driving Record Analysis of Suspension and Revocation Effects on the Drinking-Driving Offender, 1984

      5. Design, Characteristics, and Usefulness of State-Based Behavioral Risk Factor Surveillance: 1981-87, 1988

      6. Personality Characteristics and Drinking Patterns of High Risk Drivers Never Apprehended for Driving While Intoxicated, 1984

      7. Comparison of Court-Referred DWI Arrestees with Other Outpatients in Substance Abuse Treatment, 1987

      8. Drinking Behavior, Personality Factors and High-Risk Driving, 1983

      9. Intoxicated and Bad Drivers: Subgroups within the Same Populations of High-Risk Men Drivers, 1985

10. Drinking-Driving and Health Lifestyle in the United States: Behavioral Risk Factors Surveys, 1987

11. Predicting DUI Recidivism with the MMPI, 1989

12. The Intervention Approach to Drunk Driver Rehabilitation. Part II. Evaluation, 1985

13. Drinking Locations and Frequency of Drunkenness among Mississippi DUI Offenders, 1986

14. Retention of Driving-Under-the-Influence Offenders in Alcoholism Treatment, 1983

15. Zeroing In On Repeat Offenders, 1986

16. The Epidemiology of Drinking and Driving: Results from the Behavioral Risk Factor Surveillance System, 1986, 1989

17. Drinking Drivers and Alcoholics: Are They From the Same Population?, 1983

18. Characteristics of Men and Women Arrested for Driving Under the Influence of Liquor, 1986

19. Epidemiologic Perspectives on Drunk Driving, 1988

20. Race and Socioeconomic Status as Confounding Variables in the Accurate Diagnosis of Alcoholism, 1982

II. Drinking Variables

A. BAC

B. Diagnosis of Alcoholism

1. DUI Offenders' Perceptions and Misperceptions of Basic Alcohol Information, 1985

2. DUI/DWAI Offenders Compared to Clients Seen in an Outpatient Alcohol Treatment Facility, 1987

3. Family History of Alcoholism, Youthful Antisocial Behavior and Problem Drinking among DWI Offenders, 1989

4. Alcohol and the Aging Process in Social Drinkers, 1980

5. The Life Activities Inventory as a Countermeasure for Driving while Intoxicated, 1983

6. Reliability and Validity of the MAST, Mortimer-Filkins Questionnaire and CAGE in DWI Assessment, 1987

7. Alcoholism Diagnosis for Convicted Drinking Drivers Referred for Alcoholism Evaluation, 1986

8. Drunk Drivers and Medical and Social Injury, 1987

9. The Nature of the Alcohol Problem in the U.S. Fatal Crashes, 1989

10. Information on Blood Alcohol Concentration: Evaluation of Two Alcohol Nomograms, 1988

11. Portable Breath Alcohol Testers and Drinking-Driving Behavior of Convicted Drunk Drivers, 1986

12. Profile Differences Between DWI Clients and Alcoholics: Implications for Treatment, 1988

13. An Evaluation and Education Program for Driving While Intoxicated Offenders, 1986

14. Factors Affecting the Drinking Driver, 1987

15. Effects of Alcohol on Driving Performance, 1990

16. Introduction: Drinking, Driving, and Health Promotion, 1989

17. Diagnostic and Statistical Manual of Mental Disorders, Third Edition - Revised, 1987

13. Alcohol and Highway Safety 1989: A Review of the State of Knowledge, 1990

14. Who are the Drinking Drivers?, 1990

IV. Decision Making Process

1. Coping Strategies, Reasons for Driving, and the Effect of Self-Monitoring in Drinking-Driving Situations, 1988

2. Estimating Social-Psychological Effects in Decisons to Drink and Drive: A Factorial Survey Approach, 1986

3. Drinking Place Selection Factors Among Drunk Drivers, 1987

4. Drinking-Driving Complaince in the United States: Perceptions and Behavior in 1983 and 1986, 1989

5. Reasons for Drinking Among Problem Drinker-Drivers: Client and Counselor Reports During Treatment, 1984

6. Decisions Relating to Alcohol-Impaired Driving: An Exploratory Analysis, 1987

7. Reasons for Drinking Among DWI Arrestees, 1982

8. Behavioral Treatment of Drunk-driving Recidivists: Short-term and Long-term Effects, 1986

9. Drinking Reasons, Alcohol Consumption Levels, and Drinking Locations among Drunken Drivers, 1986

10. The Drunken Driver: A Psychosocial Study, 1977

11. Problem-Behavior Theory and Driving Risk, 1988

12. Treating Drunk Drivers with Moral Reconation Therapy: A One-Year Recidivism Report, 1989

VI.   Interactional Definition of Behavior

      1.   Towards an Interactionist Approach to Drinking-Driving Behavior: Implications for Prevention and Research, 1986

      2.   Validity and Reliability of the Hutchins Behavior Enventory: A Confirmatory Maximum Likelihood Analysis, 1990

      3.   Ranking Major Counseling Strategies with the TFA/Matrix System, 1982

      4.   Systematic Counseling: The T-F-A Model for Counselor Intervention, 1979

      5.   Improving the Counseling Relationship, 1984

      6.   Cognitive-Behavioral Group Therapy for Multiple-DUI Offenders, 1986

      7.   Drinking and Driving, 1990

      8.   TFA Systems (tm), 1988

      9.   Helping Relationships and Strategies, Second Edition, 1992

     10.   Group Psychotherapy for Male Spouse Abusers Using TFA Systems (tm), 1989

     11.   Behavior Assessments of Pregnant Adolescents Using TFA Systems (tm), 1991

     12.   Group Treatment for Female Incest Survivors using TFA Systems (tm), 1991

     13.   Cognitive Therapy, Application in Psychiatric and Medical Settings, 1987

     14.   Cognitive-Behavioral Relaxation Training, 1990

     15.   Cognitive Processes and Emotional Disorders, 1983

     16.   Cognitive-Behavioral Interventions, Theory, Research, and Procedures, 1979

17.   Rational Emotive Therapy with Alcoholics and
       Substance Abusers, 1988

18.   Rational-Emotive Therapy - A Skills-Based
       Approach, 1980

Appencix C

Definition of Words Used on the HBI

1. Analytical - Resolving into first principles or
    elements; separating into parts;
    considering anything in its parts and
    their relation to each other.

2. Assertive - Positive, affirming confidently;
    declaratory.

3. Caring - Caution, regard, watchfulness; implying
    concern for safety and prosperity; to
    support and protect.

4. Compassionate - Full of pity; tender-hearted, sympathy;
    suffering with another; acting with
    mercy.

5. Concerned - Affecting the interest of; to be of
    importance; agitation of uneasiness of
    mind.

6. Contemplative - Given to continued application of the
    mind to a subject; thoughtful;
    meditative.

7. Curious - Strongly desirous to discover what is novel
    or unknown; inquisitive, exciting surprise.

8. Decisive - Having the power or quality of determining
    final; conclusive; marked by prompt
    determination.

9. Doing - Performing; executing; carrying into effect.

10. Emotional - Producing excited feelings of any kind.

11. Initiating - Beginning or entering upon; setting afoot; starting; being first to practice or bring in.

12. Logical - Pertaining to the science of reasoning; discriminating; testing the legitimacy of all possible conclusions.

13. Rational - Having reason or the faculty of reasoning; judicious; not absurd or foolish.

14. Sensitive - Having the capacity of receiving impressions from external objects; having feelings easily excited.

15. Spontaneous - Proceeding from natural inclinations and without constraint or external force; voluntary, acting by its own impulse or energy; self-originated.

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Appendix D

Informed Consent
Participant Agreement

You are being asked to volunteer in a research project which focuses on your arrest for a second Driving Under the Influence (DUI) offense. The purpose of this study is to generate current data on the decision making process of DUI recidivists. You are under no obligation to participate in this study, nor will your participation, in any way, influence conditions of your incarceration or parole. Additionally, you may withdraw from the study at any point without prejudice.

Federal Regulations 42CFR and Pennsylvania Act 63 protect access to any of your confidential records without your written consent. Because of the delicate nature of this study, all records generated from this study will be marked "Confidential" with access to these records being limited to the researcher. Participants in the study will be identified by a numbering system with access to the cross-referenced participant listing being the exclusive property of the researcher.

Your participation in this research will include three interviews with the researcher which will be recorded on audio tape. The first two interviews will occur while you are incarcerated, and the third interview will occur thirty days after your parole. The total interview time is estimated at five and one-half hours. Additionally, each participant will be requested to release information from their confidential files at the Franklin County Probation Department. This information will be limited to information contained on the Court Reporting Network Client Intake Form. Individuals who refuse to release information from the CRN file will not be included in this study.

Agreement to Participate

I, _____, have been asked to

volunteer to participate in a research project being conducted

by Paul L. West, 523 W. Main Street, Waynesboro, PA 17268.

I understand that information relevant to this study is

protected by Federal and State regulations and that I must

give my written permission for any information to be released.
I further understand that information relative to my case will
be rendered undiscernible from information gained from other
participants except that the researcher, exclusively, will
maintain the ability to determine individual participant data.
It has been further explained to me that my participation in
this study will, in no way, influence treatment I receive
through the Franklin County Prison or through the Franklin
County Probation Department and that I may withdraw from the
study at any point without prejudice.
With my signature below, I agree to

1. Participate in this research project as a
   volunteer.

2. Release confidential information gathered by the
   Franklin County Probation Department on the Court
   Reporting Network Client Intake Form to the
   researcher.

3. Participate in two interviews while I am
   incarcerated in the Franklin County Prison.

4. Participate in an interview thirty days after I am
   paroled from the Franklin County Prison.

5. Allow all interviews to be recorded on audio tape
   by the researcher.

I have read this form or have had this form read to me and
understand its contents.

Participant's Signature	Date

Researcher's Signature	Date

Appendix E

Authorization for Release of Information

I hereby authorize _____ of the Franklin

County Probation Department, Chambersburg, PA 17201 to

release information from the records of _____

(Participant Name)

to: <u>Paul</u> <u>L</u>. <u>West</u>, 523 W. Main Street, Waynesboro, PA 17268 for

the purpose of extracting information from the Court Reporting

Network Client Intake Data Form thereby allowing me to become

a participant in a guided research study. The information to

be released is limited to the information contained on the CRN

intake form. I understand that I have no obligation whatsover

to disclose any information from my probation records and I

understand that I may revoke this consent at any time by

notifying _____ of the Franklin County

Probation Department (in writing) and/or by specifying a date,

event, or condition upon which my consent will expire without

revocation. This form will automatically expire on _____

_____   (Date, Event, or Condition)

I have read this form or have had this form read to me and

understand its contents.

_____   _____
     Participant's Signature   Date

_____   _____
     Researcher's Signature   Date

263.

Appendix F

TFA Clinical Triangles

Participant Number: _____

8 hours before decision to drink:
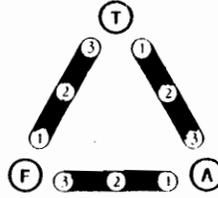
4 hours before decision to drink:
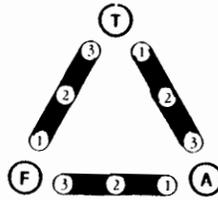
1 hour before decision to drink:
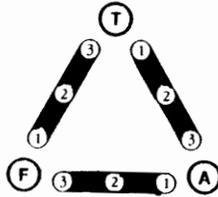
(Film)

Time of decision:
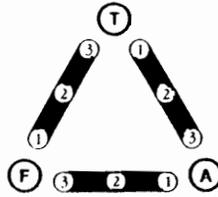
(HBI)

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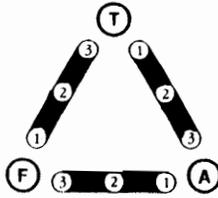
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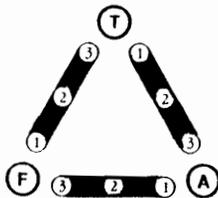
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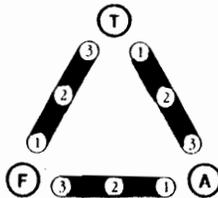
Appendix G

Group TFA patterns on TFA Clinical Interview
at various intervals

Time of decision
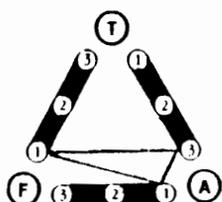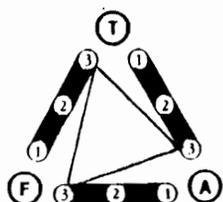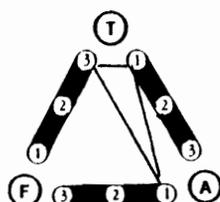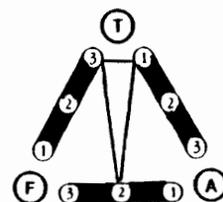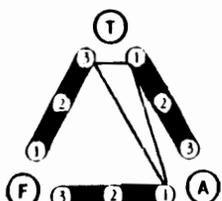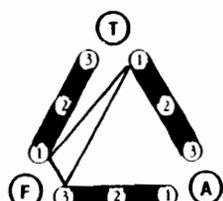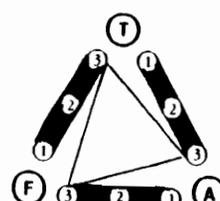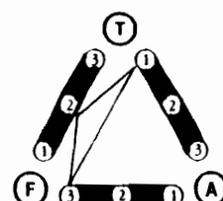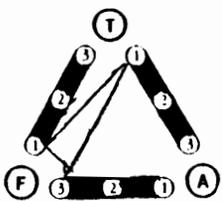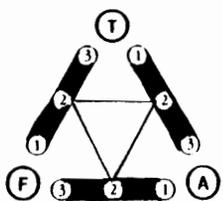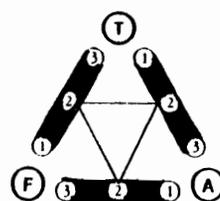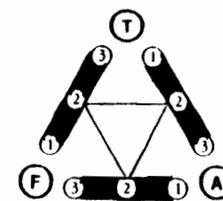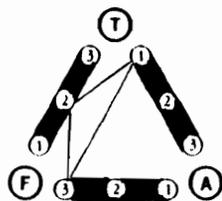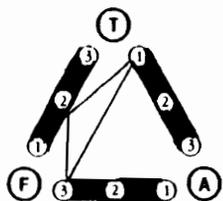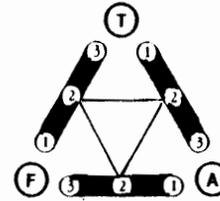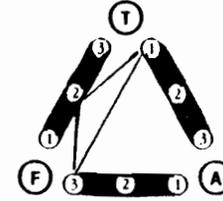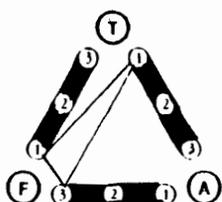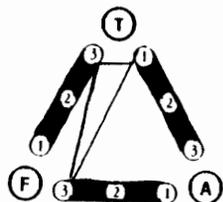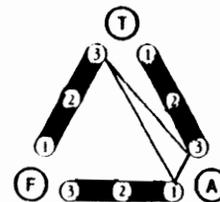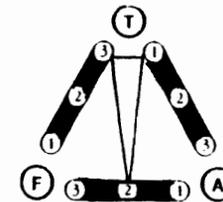
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Subject 5 · Subject 6 · Subject 7 · Subject 8
Subject 9 · Subject 10 · Subject 11 · Subject 12
Subject 13 · Subject 14 · Subject 15 · Subject 16
Subject 17 · Subject 18 · Subject 19 · Subject 20

Thirty days after parole
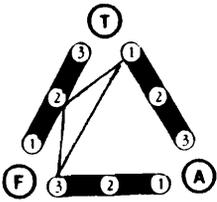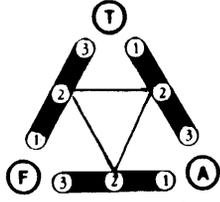
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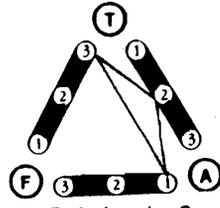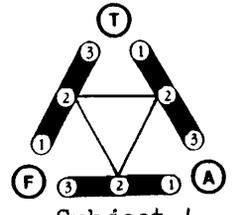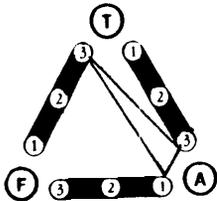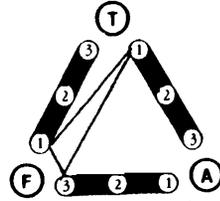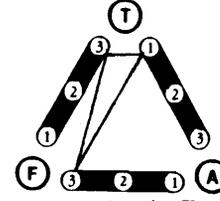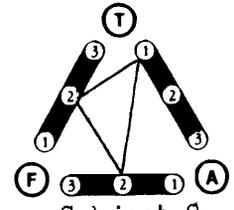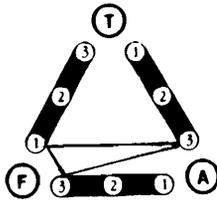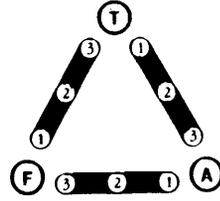
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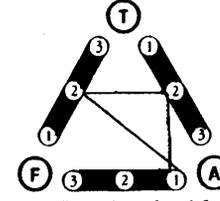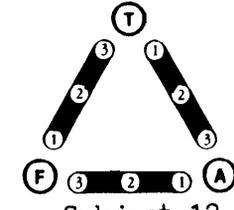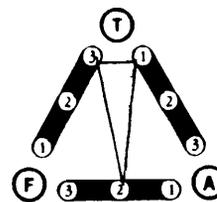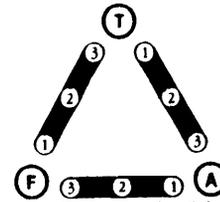
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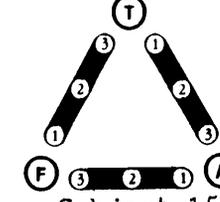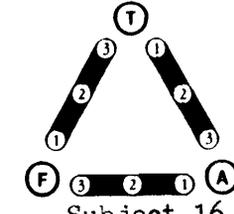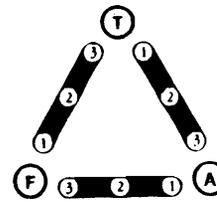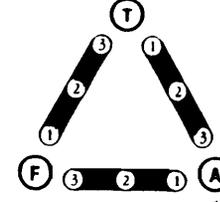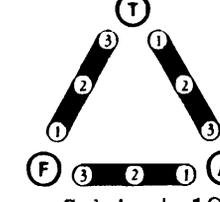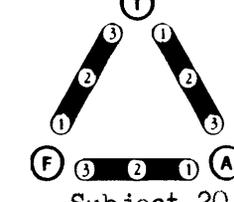
Subject 17 Subject 18 Subject 19 Subject 20

Twent to twenty-three days in jail
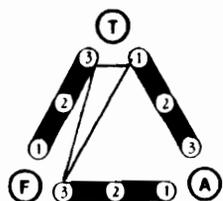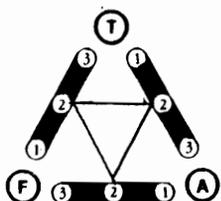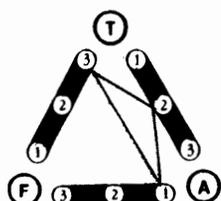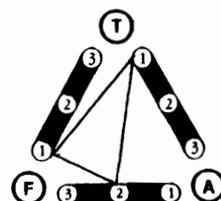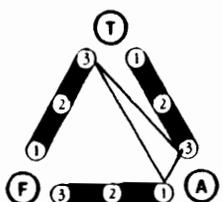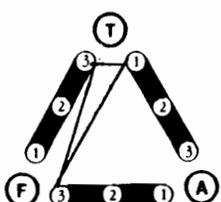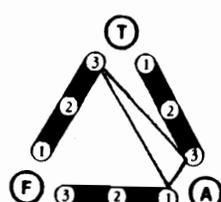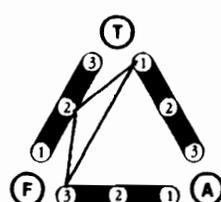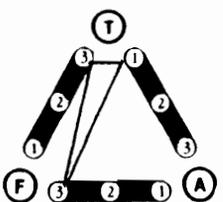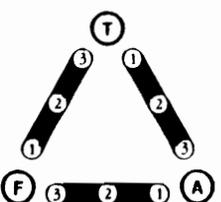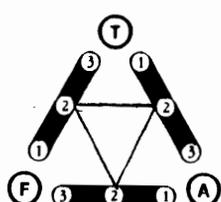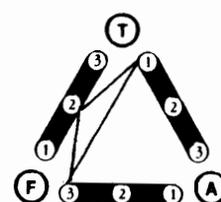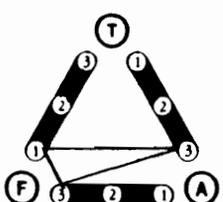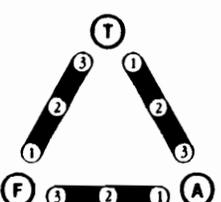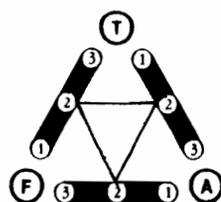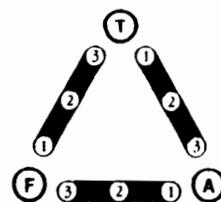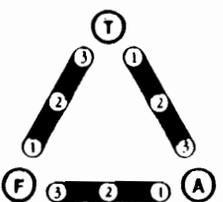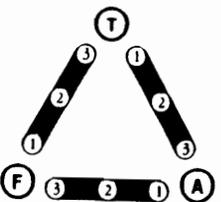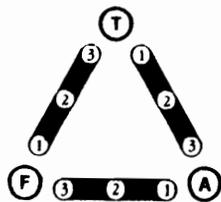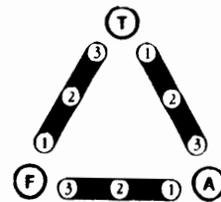
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Subject 5 · Subject 6 · Subject 7 · Subject 8
Subject 9 · Subject 10 · Subject 11 · Subject 12
Subject 13 · Subject 14 · Subject 15 · Subject 16
Subject 17 · Subject 18 · Subject 19 · Subject 20

Six to nine days in jail
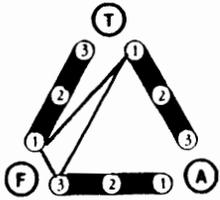
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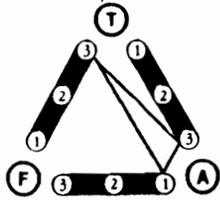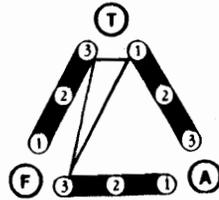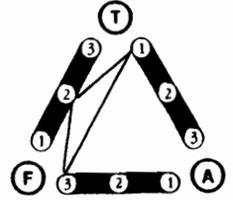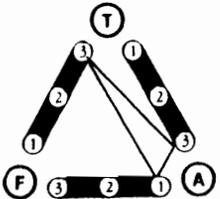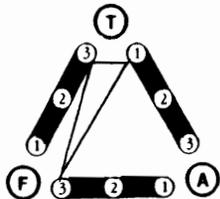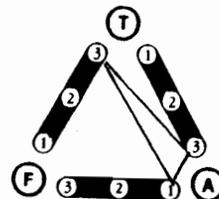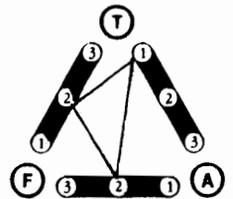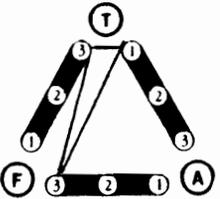
Subject 5   Subject 6   Subject 7   Subject 8

Subject 9   Subject 10   Subject 11   Subject 12

Subject 13   Subject 14   Subject 15   Subject 16

Subject 17   Subject 18   Subject 19   Subject 20

Appendix H

TFA patterns on TFA Clinical Interview
for each participant over time

Subject 1

Subject 2

Subject 3

Subject 4

Subject 5

Time of decision | Six to nine days in jail | Twenty to twenty-three days in jail | Thirty days after parole

Subject 6

Subject 7

Subject 8

Subject 9

Subject 10

Time of decision | Six to nine days in jail | Twenty to twenty-three days in jail | Thirty days after parole

Subject 11

Subject 12

Subject 13

Subject 14

Subjedt 15
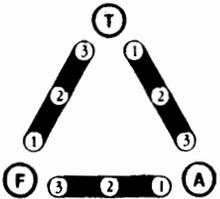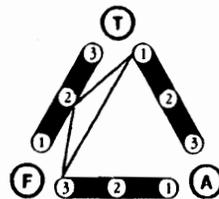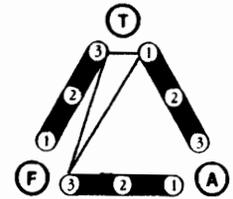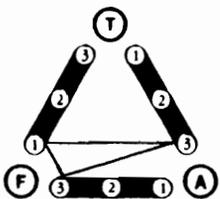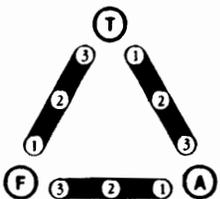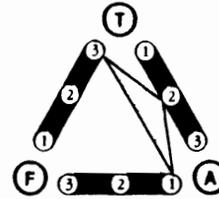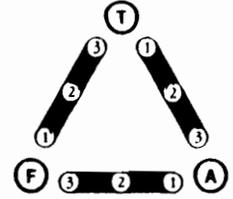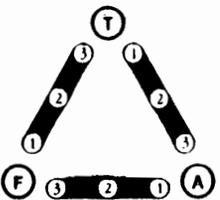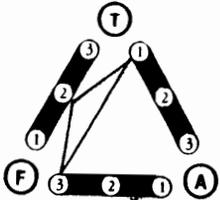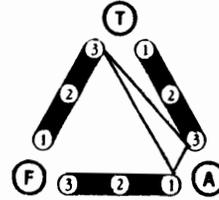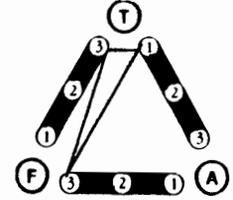
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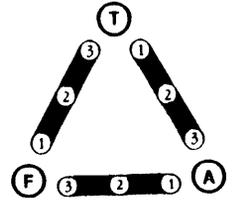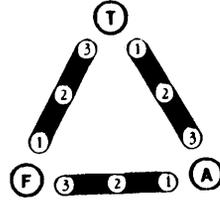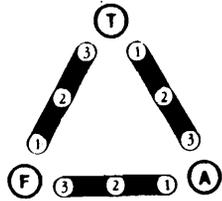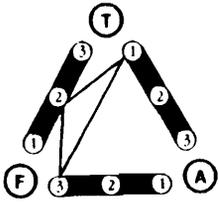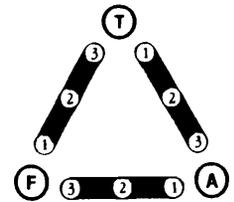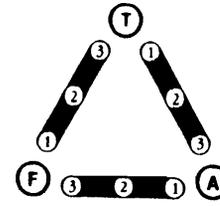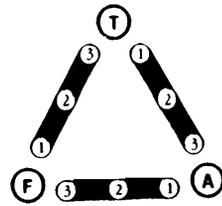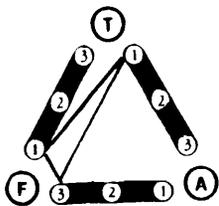
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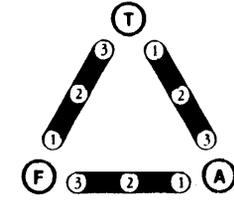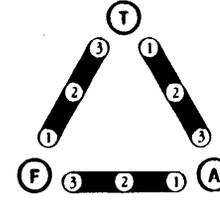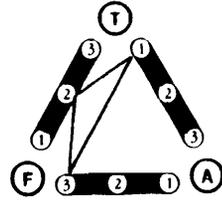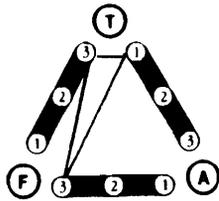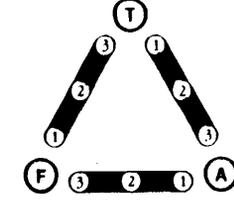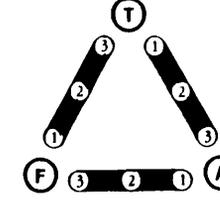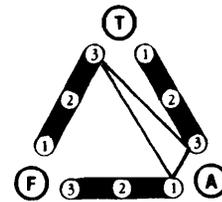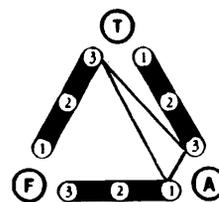
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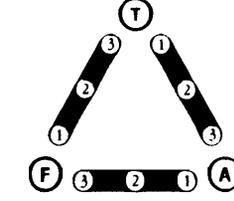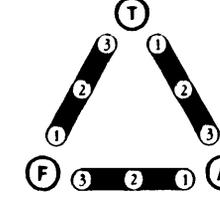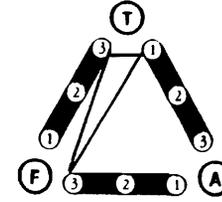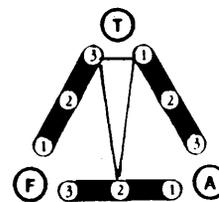
Subject 19

Subject 20

VITA

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1984 - 1988   Talbot Chemical Dependency Program, Hershey, Pennsylvania

1981 - 1984   Franklin/Fulton Drug and Alcohol Program, Chambersburg, Pennsylvania

1978 - 1981   South Central Community Action Program, Gettysburg, Pennsylvania

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International Association of Marriage and Family Counselors

Association for Counselor Education and Supervision

International Association for Addictions and Offender Counselors

Paul L. West