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Full Length Research Paper

A Comparative Analysis of the 1994 Study of the Female Driving Under Influence (DUI) and Habitual Traffic Violator (HTV) Recidivists and Non-Recidivists Rates of Voluntary Participation and Completion in Institutionalized Rehabilitation Programs: Did Rehabilitation Programs Availability make any Difference?

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This study compares female DUI and HTV recidivists and non-recidivist rates of voluntary participation and completion of institutionalized rehabilitation programs. Major findings were in two folds. First, the results revealed that forty four percent (44%) of the recidivists participated in one or more programs, while only sixteen percent (16%) of non-recidivists participated. Secondly, while seventy two percent (72%) of the recidivists completed one or more programs, only twelve percent (12%) of non-recidivists completed programs. Although, the differences that exist in participation and completion showed no significant difference, $\chi^2(1)=3.43$, $p=.064$ for both samples. The chi-square result was due to low cases of the subjects who participated in programs. The chi-square was not computed for program completion due to relatively small number of the subjects who completed the programs. T-test was used to know whether educational level, IQ level, BDI, and age impacted program participation and completion. The education was tested using reading scores, mathematical scores, and spelling scores. T-test was computed for reading level. The result showed no significant differences, $t(48)=1.34$, $p=.186$. The mathematical scores for both groups were tested; t-test showed no significant difference, $t(48)=0.69$, $p=.492$. A two-tailed probability was used to test the spelling scores. The result also showed no significant difference. The above t-test results rejected education. Education did not impact program participation and completion. A two-tailed probability was used to test the intelligent quotient (IQ). The t-statistic was not significant, $t(47)=0.53$, $p=.599$ for both groups. The t-test for BDI scores (i.e., potential for violent behavior) was not performed due to the fact that the data showed relatively low cases of such behavior for this group. The average age for these subjects was 33.2 (SD=5.2) and median was 32.5. While non-recidivists were older than the recidivists, the difference was not significant $t(48)=1.736$, $p=.089$. Although, data did show that both groups have drinking problems, age has no impact on who participated and completed programs voluntarily while incarcerated.

Keywords: Recidivist, Non-recidivist, Comparison, Incarcerated, Female DUI and HTV, Voluntary Participation, Institutionalized Rehabilitation Programs.

Key Meaning: DUI - Driving Under Influence; HTV - Habitual Traffic Violator.

INTRODUCTION

Alcohol intoxication "affects visual components of driving performance and the ability of individuals to track moving objects" (Bates, 1989, p. 143). Drunk driving is a serious problem in our society. Alcohol related arrests, homicides, and convictions nationwide have risen (U.S. Department of Justice, 1992). The arrest for DUI nationwide increased nearly 223%, while licensed drivers increased to 42% (U.S. Department of Justice, 1988). Data computed by U.S. Department of Justice presented on a special report in January 1988 revealed that 33.7% of state prison female inmates were incarcerated for DUI. Almost half the females in the State prison in 1986 data were using drugs and alcohol.

The overall earlier data for female offenders and male offenders in the U.S. reported in "Correction Today" (Nesbitt, 1986, pp. 76-77) showed an overwhelming increase in female imprisonment. Within a ten-year period from 1974 to 1984, the Justice Statistics reported that 8,091 women were imprisoned in the state and federal prisons in 1974. That figure jumped to 20,853 by the end of 1984 (p.76). This trend of female offenses in the U.S. alone has continued to increase with the greatest increase in drug and alcohol related convictions (U.S. Department of Justice, 1992).

"Alcohol-related activities provide a serious problem for the criminal justice system" (Siegel, 1983, p.380). In 1990, "more than 450 new drug laws were enacted in 44 states and in the District of Columbia" (U.S. Department of Justice, 1992, p.100). These new laws followed guidelines set by the U.S. government for uniformity in controlling substance abuse and driving while intoxicated (p.99). Because of this increase, a number of treatment programs have been designed. Treatment programs are usually designed to serve both alcohol and drug dependency. Voluntary participation in many of these programs is opened to all substance abused subjects.

In many drug treatment centers, self-help group meetings are usually free and readily available for use in many cities in the U.S. According to the National Drug and Alcoholism Treatment Unit Survey 1990, treatment units available for voluntary participations for drugs and alcohol abusers are enormous. NDATUS in 1989 revealed that treatment designed just for drug alone for voluntary participation was 16%; alcohol alone was 19%, whereas treatments designed for both drugs and alcohol was 65%. Although, those treatment centers exist, the number of substance abuse victims who voluntarily participated in structural rehabilitation programs were relatively small (NDATUS, 1989). Having examined the national picture of this problem, the central focus of this study is the State of Georgia.

In the State of Georgia, DUI convictions for females have increased more than any other crimes from 1981 to 1990 (Smith, 1991). According to Smith's 10-year trend analysis for Georgia's "female admission to prison"

(p.25), the number of admissions within that period for female DUI and habitual traffic violators jumped from 8 in 1981 to 64 in 1990. These figures accounted for 700% change in the Georgia female prison admission crime type records. However, these female DUI offenders "always served more than one-third of their sentences" (p.39).

The overall DUI and habitual traffic violator prison admission for both males and females in Georgia also increased from 106 in 1981 to 1,332 in 1990. These figures accounted for a 1,157% increase for the crimes of DUI and HTV (Smith and Hadley, 1991). These figures indicate a great problem of drunk driving and habitual traffic violation in the state of Georgia. Due to this increase in drunk driving, the State of Georgia has recently made tougher DUI laws, which took effect January 1, 1993. The law was designed to stiffen Georgia's punishment for drunk drivers (The Atlanta Journal and The Atlanta Constitution, Jan.1, 1993).

According to Georgia law, a person is illegally drunk when the blood-alcohol level is .10 percent. Presumption of guilt for drunk driving is .08 percent and could be challenged by the motorist in court. Loss of a driver's license could ensue if a person has a prior conviction for drunk driving within the last five years, especially if the person fails or refuses to take the sobriety test.

The severity of sanctions in Georgia law for DUI ranges from suspension of a driver's license, fines, and community service to a prison term. For repeat or habitual offenders, sanctions range from five to twenty years, depending on such factors as homicidal involvement or prior histories of DUI convictions. The essence for these sanctions is to deter DUI, save lives, and instill safety control system, the crime of DUI still occurs in Georgia. This situation leaves us wondering whether there is a relationship between participation in prison rehabilitation programs and the number of imprisonments for the crime of DUI. Grobsmith and Dam (1990) believe that many prisoners may have been released from prison without ever treating the disease of substance abuse. In Georgia Women's Prisons, these are self-help programs. Female prisoners in Georgia and other "persons arrested for driving while intoxicated represent a population at risk for alcoholism" (Reynolds, Kuncie, and Cope, 1991, p.289).

Since some alcoholics are "homicidally dangerous when they drink more than they can customarily inhibit" (Rappeport, 1967), there is the question as to whether they are really able to participate in self-help programs voluntarily upon removal from society. Alcohol weakens the motor coordination (Ellis and Schoenfeld, 1990). Gilbert and Maxwell (1987) stated that attrition or weakness in motor functions contribute to poor participation in treatment culture. Weakness in motor function is due to long-term alcohol dependency. Long-

term alcohol dependency has a series of psychological and biological damages that could affect individual's ability to maintain perfect attendance in treatment culture. According to Gilbert and Maxwell, attrition reintroduces the threat of self-selection bias among subjects. Attrition may induce subjects to dropout from treatments if the treatment expectations are not met (Leukefeld and Tims, 1992).

Some alcoholics, even after participating in rehabilitation/treatment programs, repeat the same behavior and pose homicidal danger to others, self, and society at large (Ciminero et al., 1986; Leukefeld and Tims, 1992; National Household Survey on Drug Abuse, 1991). Considering the series of psychological and biological damages caused by alcohol consumption to the alcoholics, self-referral to treatment programs voluntarily may not be enough.

Grobsmith and Dan (1990) pointed out that many prisoners repeat their offense due to lack of participation in treatment. This repetition leads to "The Revolving Door" (p.407) of prison incarceration and subsequent increase in prison populations. As these women return to prison for the same DUI behavior, female criminal activities become more visible than ever. The need to design comprehensive treatment programs for females based on studies conducted with female samples have become seemingly urgent for women (Kilbey and Asghar, 1992).

Both males and females view imprisonment as a terrifying and traumatic experience that disrupt their freedom from normal functional lifestyles. It is more traumatic for women than men as they become more deeply concerned for "their children, health needs, sexual harassments and abuses, and discrimination by the criminal justice system" (ENGAGE and SOCIAL ACTION, May, 1983, p.35). Female prisoners need the same treatment or therapeutic environments that is available to male prisoners. These therapeutic activities include: "humane conditions, good legal defense, and educational and vocational programs" (p.35) that would help prepare them for independent living when they are released from prison.

The early therapeutic programs at Georgia Women's Prisons adopted treatments designed for male prisoners. Many such treatment programs are located in vocational training programs, such as carpentry, automobile, electrical, masonry, and dentistry. While female offenders are involved, these programs are virtually designed for male prisoners. This neglect for women's problems have been severely critiqued nationally by many scholars (Oatman, 1979; Simon, 1975; Van Den Bergh and Cooper, 1986; Wilsnack, 1984).

Female prisons around the state have increased their therapeutic programs. These programs include drug education, alcohol anonymous, women issues group, violent offenders groups, positive mental attitude, battered women group, health awareness meeting,

clemency group for life sentenced inmates, project reach programs for inmates mothers and children, children of alcoholic parents group, and many other group meetings.

Since many social scientists have ignored studying and measuring the effectiveness of female rehabilitation programs at both state and federal levels, contemporary theorists are struggling to fill the gap left by the earlier social scientists (APA, 1985; Closser and Blow, 1993; Ellis and Schoenfeld, 1990; Evans and Sullivan, 1990). Rehabilitation programs for female prisoners in the State of Georgia in the early 1960s, 1970s, and 1980s were in fact limited. Few early treatment programs for women centered on Alcohol Anonymous Group meetings and Drug Education. Measures of success for those programs centered on the offender's ability to make successful parole without returning to prison for the same or similar criminal offenses. In a ten-year period, Smith (1991) found that Georgia female recidivism rate had an increase in the number of females who returned to prison after their release. This figure was based on the number of parole revocations that occurred within that period. Female parole revocations in Georgia alone jumped from 2% (15 revocations) in 1981 to 11% (193 revocations) in 1990. These revocations include both DUI convictions and other crimes.

Smith's data showed "self-reported substance abuse problems" (p.15) for both those returning to prison and those in prison for the first time to be high. In 1981, 12% (78 cases) of the Georgia female prisoners reported having problems with both alcohol and drugs. By 1990, that figure increased to 25% (44 cases). Hadley (1991) recalculated Georgia "female prison admissions self-reported drug and /or alcohol problem" and found that "female substance abusers admitted to Georgia prisons have more than doubled from 552 in 1983 to 1,109 in 1992" (p.48). From the above number, alcohol abuse alone within a "three year period, the return rate for women was 23.5%, drug was 31%, while those offenders who abused both was 44% (Hadley, 1993, p.48). Georgia female prisons increased from 58% of the total admission of self-reported substance abuse problems in 1983 to 62% in 1992 (Hadley, 1993). These figures explained why drug abuse treatment program have taken a comprehensive approach both in residential drug treatment units and inmates' facilities. This comprehensive method has contributed to "transitional services" (Leukefeld and Tims, 1992, p.283) that helped prisoners re-enter treatment programs in the community after release from a comprehensive residential pilot programs.

In Georgia alone, women's prisons have numerous rehabilitation programs that are accessible to all female inmates on voluntary basis. Therefore, the factors that influence a person's participation in available prison programs for females need to be identified. Theoretically, if females are identified and encouraged to participate in rehabilitation programs, the offense of DUI may not be

repeated. With this assumption in mind, the need for a comparative research study of female's voluntary participation among DUI inmates is necessary. This study would explain those factors that influence participation when compared among recidivist and non-recidivist samples.

In summary, this study was to find out whether there are differences in voluntary participation in prison rehabilitation programs between female DUI recidivists and non-recidivists incarcerated in Georgia Women's prisons. The information obtained from this comparative study was used to determine if differences were due to non-participation in treatment programs. There was a need to predict factors that contributed to non-participation in prison rehabilitation programs. Predicting the factors that influenced participation in treatment programs would help human service providers to effectively guide prisoners into treatment programs. This recognition would be useful in influencing parole decisional criteria for parole releases. It was hoped that the parole board would incorporate findings from this study into their decisional baselines for inmates who were repeated offenders for drug-related offenses.

Purpose

Many previous treatment programs for female offenders relied on results of the studies designed for male prisoners and excluded females (Brotsky, 1975; Oatman, 1979). This neglect appears to have been remedied by the new Federal legislation (Public Law 94-371), mandating the provisions for the development of specialized drug treatment programs for women (Kilbey and Asghar, 1992). These provisions have increased the availability of many rehabilitation programs in both the state and federal prisons for women. Even though the public law includes provisions for treatment goal, the crime of DUI has continued to grow in every state in the U.S. Thus, it becomes necessary to quest for factors contributing to the growth of DUI offense in the State of Georgia alone.

DUI convictions has continued to occur in our society, and many offenders represent the same population who were incarcerated for drinking behaviors. Alcohol related offenses induced us to anticipate whether (a) the optional rehabilitation programs in Georgia Women's Prison for DUI offenders is not working; (b) the rehabilitation programs for DUI offenders should be made compulsory; (c) the disease of alcohol has done substantial damages to individuals abilities to understand the importance of treatment goals, or (d) the parole board underscores the need to get various people involved in treatment before they become eligible for parole; and lastly, whether financial investments in rehab programs worth the effort.

However, the main objective for this study was to compare the recidivists and non-recidivists samples and

find out whether voluntary participation in rehabilitation programs would help stop recidivism due to alcoholism. We used social factors such as severity of substance abuse, educational levels, age, and IQ levels for a comparative analysis and also for examination whether they had significant effects on offender's ability to participate and complete prison rehabilitation programs voluntarily.

Assumptions

This study focused attention on some basic research questions/or assumptions that guided us to achieve research objectives. Inquiry sought direction for "solving knotty problems induced by human ignorance" (Leedy, 1980, p.4). Leedy pointed out that "research seeks direction through appropriate hypotheses and is based upon obvious assumptions" (p.5). While the prognostic factors of the disease of alcohol analyzed in this study are inherent in nature, due to its effect on society and individuals, it was necessary to establish some basic research questions that would assist us understand its effect on rehabilitation program participation. These assumptions include:

1. Voluntary participation in prison rehabilitation programs for female DUI offenders depended on the past histories of the offenders' alcohol drinking habits. It was assumed that past histories of alcoholism impaired offenders' ability to voluntarily participate in prison rehabilitation programs.
2. The presence of impairments induced by alcoholism were the empowering factors that determined the recidivists and non-recidivists offenders' ability to participate in prison rehabilitation programs voluntarily.
3. Given the histories of incarcerations for the recidivist samples for DUI offenses, it was assumed that voluntary participation in prison rehabilitation program would be feasible for the DUI recidivists as it was expected that they would make changes in their lifestyles.
4. It was assumed that non-recidivist samples for DUI offenses ignored voluntary participation due to the fact that they had no prior prison incarcerations and were expected to be released from prison by the Parole Board shortly.
5. Given the fact that variations in age did exist for both the DUI recidivist and non-recidivist samples, voluntary participation in prison rehabilitation programs was assumed to be due to age differences.

Statement of the Problem

One of the more serious problems of widespread drinking is the alarming number of highway fatalities linked to

Table 1. Rates Of Alcohol Consumption Among Adult Females

Adult Females	Rates
Overall moderate female drinkers	55%
Eighteen (18) years and above who have moderate drinking habit	69%
Females with serious drinking problems	6%

Closser and Blow, 1993, pp.199-209.

Table 2. Georgia Female Probation Violation And Termination Due To Dui/Htv Convictions

DUI/HTV CONVICTIONS	1981	1990
Normal Probation Termination	85%	85%
Abnormal Probation Termination due to violations	8%	8%
Terminations due to violations	8%	17%
New Probationers	7%	16%
Probation Violations due to Absconds	1%	9%

Figures extracted from a "Ten-Year Trend Analysis: Georgia's Female Offender Population, 1981-1990" (Smith, 1991, pp. 57-58);

Table 3. Alcohol Related Offense For Native Americans

Factors	Degrees of Occurrence
Alcohol Related Offenses	24.1%
Parole Revocations due to Alcoholism	46%
New Contact with Criminal Justice System	40%

Grobsmith and Dam analysis of recidivism rates for alcohol-related offenses for both males and females among Native Americans in Nebraska prisons (Journal of Substance Abuse 2, 1990, p.407).

Table 4. Contingency Table Comparing Recidivists' And Non-Recidivists' Programs Participation

	Recidivists N=25	Non-Recidivists N=25
Participated in one or more programs	11 (44%)	4 (16%)
Did not participate in any programs	14 (56%)	21 (84%)

Table four shows the contingency table used for the chi-square analysis. The recidivists were more likely to participate in rehabilitation programs than those offenders incarcerated for the very first time for the offense of DUI/HTV, however, the difference was not significant because the number of the participants in both groups were small. Therefore, we fail to reject the null hypothesis.

drunk driving. In an average week, nearly five hundred people die in alcohol-related accidents, and twenty thousand are injured. On a yearly basis, that amounts to twenty five thousand deaths, or about half of all auto fatalities (Siegel, 1983, p. 381).

Driving under the influence of alcohol leads to many fatal accidents. It creates great concern in our neighborhoods. The death rate due to auto accidents among drunk drivers is on the increase yearly (p.381). Over the decades, the number of alcoholic women has increased. These women have more problem than ever before (Closser and Blow, 1993). The rate of alcohol consumption among women, especially moderate drinkers is 55%. Sixty percent of women, aged 18 and

above, fall within that moderate drinking bracket, whereas 6% of the adult female population has serious problems with alcohol. Alcohol-related problems contribute to divorce, marital relationship conflicts, criminal behaviors, deviant lifestyles, serious health problems, as well as a number of parental problems for women (Alterman et al., 1987; Ferrence et al., 1986; Gordon et al., 1988; Roberts, 1988; Stapleton et al., 1986; Sullivan et al., 1987).

The number of prison admissions in Georgia Women's Prison for drugs and alcohol related offenses are on the rise (Hadley, 1993; Smith, 1991). Women, like their male counterparts, have become revolving criminals. Looking through the closed bars of Women's Prison, it is shocking to note the alarming number of repeat offenders, or

Table 5. Contingency Table Comparing Recidivists' And Non-Recidivists' Programs Completion

	Recidivists N=25	Non-Recidivists N=25
Completed one or more programs	7 (72%)	3 (12%)
Did not complete any programs	18 (28%)	22 (88%)

The chi-square test revealed no significant difference between the recidivists and non-recidivists on the number of subjects who completed at least one or more rehabilitation programs, $\chi^2(1) = 2.00$, $p = .157$. The results should be interpreted with caution because one of the cells has an N of 3. As revealed by the following contingency table 5 among the non-recidivists, 12% completed one or more programs, while 88% did not complete any programs. Among the recidivists sample, 72% completed programs, while 28% did not complete programs.

Table 6. t - Test Comparing the Reading Scores for Recidivists and Non-Recidivist

	Mean	SD	t	df	p
Recidivists	9.42	2.82	1.340	48	.186
Non-Recidivists	10.60	3.36			

A t-test was performed between the recidivists and non-recidivists on reading score. Since the direction of the difference was not predicted, a two-tailed probability was used. As shown in table 6, the t-test was not significant, $t(48) = 1.34$, $p = .186$, therefore, we conclude that there was no significant difference between the two groups on reading score.

recidivists, returning to prison as a result of the same old drinking habits. The overall total admissions for parole revocations, probation revocations, and new cases from courts for Georgia female prisoners in 1981 was 625. This figure almost tripled by 1990. At the end of 1990, the total female prison admissions jumped to 1,784. The 1983 figures for female admissions to prison for alcohol offense was 71 inmates, accounting for 8% of the total prison admissions for that year. But that figure more than doubled to 188 inmates by the end of 1992, accounting for 11% of the total prison admissions (Hadley, 1993).

Simon (1975) pointed out that the recidivism rates for men and women do not show significant differences. Large-scale epidemiological surveys on women showed an increase in recidivism rates in the United States. Some female recidivists during those periods were significantly involved in drug violations, had histories of drug and alcohol problems, and were involved in numerous parole violations and revocations. Recidivists had records of confinement in reformatories, prisons, jails, and workhouses, much more than non-recidivists. While recidivism has continued to be on the rise, first time female offenders are also on the rise (p.2).

In the State of Georgia, Smith's data on female "probation termination" (p.59) showed that the majority of DUI/HTV female probation termination from 1981 to 1990 was 85% normal terminations (p.58). Smith pointed out that normal termination means that the offender satisfactorily completed her sentence or the sentence was terminated early by the sentencing judge due to satisfactory probation performance by the probationer. However, even though probation termination remained normal from 1981 to 1990, the proportion of DUI and HTV

probation violation for females increased from 8% in 1981 to 17% in 1990.

The proportion of females starting probation on DUI/HTV convictions witnessed an increase from 7% in 1981 to 16% in 1990 (p.52). "The number of female who absconded from probation supervision also increased from 19 in 1981 to 1,125 in 1990" (p.58). Abscond means departing suddenly and secretly from probation supervision or escaped and avoided treatment for drug disease. Absconding alone had 9% of probation termination by the end of 1990. The most recent calculations for both Black and White females "starting probations" (Hadley, 1993, pp.22-23) for DUI/HTV in Georgia from 1983 to 1992 was also on the rise. All these figures indicate that the number of females in prison for the first time is on the rise. Although, some inmates were in prison before and finished with their original sentences, they re-enter the system again on probation violation or on different charges. The fastest growing age group among these women criminals, beginning their probation term in Georgia is between 30 to 39. "Female probationers in their 30s increased (415%) from 900 in 1981 to 4,638 in 1990" (Smith, 1991, p.44). In 1983, 62% of the females admitted to Georgia prisons were "less than 30 years old" (Hadley 1993, p.40). But, by 1992, those admitted who were under age 30 had decreased to 47%. According to Hadley, the current age group for Georgia female prisoners is "between the ages of 30 to 39" (p.40). Noting the rates of DUI/HTV in Georgia female prisons, and availability of rehabilitation programs, it is expected that rehabilitation program participation in Georgia female prisons would be made compulsory. Over the years, these programs have remained voluntary and

Table 7. t - Test Comparing the Math Scores for Recidivists and Non-Recidivists

	Mean	SD	t	df	p
Recidivists	7.15	1.73	0.693	48	.492
Non-Recidivists	7.49	1.74			

A t-test was performed between recidivists and non-recidivists on their math scores. A two-tailed probability was used, since the direction of the difference was not predicted. As revealed by table 7, the t-statistic was not significant, $t(48) = 0.69$, $p=.492$. Therefore, we conclude that there was no significant difference between the two groups on math scores.

Table 8. t - Test Comparing the Spelling Scores for Recidivists and Non-Recidivists

	Mean	SD	t	df	p
Recidivists	8.72	3.34	0.105	48	.917
Non-Recidivists	8.82	3.66			

A t-test was performed between recidivists and non-recidivists on spelling scores. A two-tailed probability was used, since the direction of the difference was not predicted. As shown in table 8, the t-statistic was not significant, $t(48)=0.11$, $p=.917$, therefore, we conclude that there was no significant difference between the two groups on spelling scores.

optional. Therefore, it is necessary to examine the level of voluntary participation among these female recidivist and non-recidivist offenders. Hopefully, the findings would permit some structural changes in the methods of rehabilitation program and parole releases.

Background

Since the turn of the century, little or no attention has been devoted to understanding the various structural factors inducing female criminality. Criminological textbooks were published for years without mentioning female criminals or factors contributing to their deviant behaviors (Davidson, 1982). Bowker (1978) stated that this neglect reflects the dominant trends of past studies. Various other scholars (Davidson, 1982; Feinman, 1980; Harrison, 1987), have confirmed this neglect of female criminals and criminal behaviors in the past studies. Previous studies (Bowker, 1978; Brodsky, 1975 and Simon, 1973), have focused their attention on biological and psychological factors of women in crime. Those studies did not comprehensively discuss the many other social structural factors inducing female criminal behaviors. Such social structural factors includes economic conditions as well as occupational and educational opportunities. The exclusion of these factors produced an incomplete criminological approach to understanding female criminality.

Criminologists have attempted to explain female criminal behaviors based on women's changing economic status in the society (NASW, 1987). This shift from biological and psychological causations to the changing economic status of females may be attributable to the interactional characteristics of economic status.

Females struggle to earn an income and achieve recognition in the society. Some scholars (Gage and Berliner, 1975; Hagan, 1987; Siegel, 1983) agree that crimes is an interaction. Studies of women in crime should examine not only the biological and occupations, and the educational situations, plus the society in general (Lotz, Poople, and Regoli, 1985; Oatman, 1979; Sutherland and Cressey, 1978).

It should be understood that the nature of the individual interactions in the society may reflect the behavioral lifestyles of the person. Understanding the dynamics of the female behaviors and the various socio-economic factors influencing their behavioral lifestyles could help social scientists to explain the causal factors and contributions to their deviant behaviors. These explanations are not uni-directional or based on a single factor. The notion is based on a multi-factor approach, which includes some of the social effects associated with the women's liberation movement of the 1960s.

The female role in our society was presumed to revolve around her ability to make babies and be a homemaker. As a result, other opportunities for females were unavailable, and females confronted a closed economic system. However, as women's traditional roles of motherhood, baby raising, and homemaking responsibilities have become less emphasized due to the women's liberation movement, women are now engaged in new occupational struggles (Simon, 1975). These struggles are economic, political, and educational in nature and emphasize both power and social equalities. These struggles expanded occupational opportunities, and consciousness contributed to women's involvement in crimes (Sykes, 1978). With participation in new occupational roles, women have become exposed to new opportunities to commit certain types of crimes. This

Table 9. t- Test Comparing the IQ Scores for Recidivists and Non-Recidivists

	Mean	SD	t	df	p
Recidivists	101.33	8.57	0.529	47	.599
Non-Recidivists	99.68	12.79			

A t-test was performed between recidivists and non-recidivists on IQ score. Since the direction of the difference was not predicted, a two-tailed probability was used. As shown in table 9, the t-statistic was not significant, $t(47)=0.53$, $p=.599$; therefore, we conclude that there was not significant difference in IQ scores between the recidivists and non-recidivists.

Table 10. Contingency Table Comparing Recidivists' and Non- Recidivists' Violent Tendencies as Measured by BDI

	Recidivists N=25	Non-Recidivists N=25
Low violence tendency	4 (16%)	11 (44%)
Slight violence tendency	12 (48%)	5 (20%)
Moderate to high tendency	9 (36%)	9 (36%)

As shown on table 10, the non-recidivists had a lower tendency for violence as measured by the BDI. While our conclusion is to reject the null hypothesis, we do so cautiously because of the low cell count. More recidivists had slightly violent behavior than non-recidivists. On the average, both groups had moderate tendencies to use violence for defensive approaches to treatments.

exposure contributes to an increase in the nature of crimes committed by women. Women criminals are involved in obsequious or secondary roles, under the primary direction and guidance of men who are their lovers and husbands (Simon, 1975).

Women become involved in criminal activities for various reasons. Some studies generalized the nature of female crimes to be similar to those committed by men (Bartollas and Miller, 1978; Siegel, 1983; Sykes, 1978). This unfounded generalization reflects society's general attitudes towards women and the various factors contributing to their criminal lifestyles (Brodsky, 1975). In fact, most of these women have experienced acute traumas such as rape and physical and mental abuse by their intoxicated partners, chronic battered wife syndrome, and humiliation and victimization due to their subservient nature (Bowker, 1980; Davidson, 1982; Simon, 1975). This violence may be the reason why many women act violently as they engaged in criminal behavior in the society and a system they perceive as not protecting them.

Life events may also contribute to acute drinking lifestyles, as well as drunk driving among males and females in general as they seek ways to cope with the social system (Linsky, Colby, Straus, 1986; Lundin, 1974; National Household Survey on Drug Abuse, 1991; Sullivan and Hale, 1987).

Drinking behaviors and drunk driving contribute to various deviant lifestyles (Douglas, 1984). Alcoholic persons become dangerous to others when they can no longer control their behaviors. An alcoholic woman under the influence of alcohol is much more dangerous and

deadly to herself and to the public when driving a car. Not all alcoholics are dangerous, except when confronted with uncontrollable drives or impulses to act out and drive while intoxicated. Problem drinking is, in fact, defined and known by its consequences. Identifying the essential stimuli that induce drinking behavior is critical (Ciminero et al., 1986). Tardiff (1989) reviewed studies by Goodman (1986) and Tardiff (1986) that found a strong link between alcohol use and certain types of homicide that involved disputes.

The alcoholic individual may be considered as one who needs help to solve alcohol illness. Alcoholism is a disorder of behavior (McCord and McCord, 1960). Conceptualizing alcoholism as a behavioral disorder leads us to wonder its effects among those repeat offenders who received virtually little or no rehabilitation treatments before their release from prison. Non-participation in treatment may be one of the many reasons why recidivism is on the rise.

Descriptive Profiles Of Rehabilitation Selectiveness

In-Prison Therapeutic Community (IPTC):

Target Population

Offenders with serious substance abuse problems who are within 12 to 14 months of release from prison, and who have not received parole release recommendations based on prison rehabilitation program completion. Not under compulsion to participate.

Table 11. Contingency Table Comparing Recidivists' and Non-Recidivists' Potential For Self-Harm Measured by the MHSIM Scores

	Recidivists N=25	Non-Recidivists N=25
Low self-harm tendency	12 (48%)	8 (33.3%)
Slight self-harm tendency	5 (20%)	5 (20.8%)
Moderate to high self-harm tendency	8 (32%)	11 (45.8%)

The chi-square was not significant, $\chi^2(2)=1.25$, $p=.534$; therefore, we fail to reject the null hypothesis and conclude that there was no significant difference between the two groups. Table 11 is the contingency table used to calculate the chi-square.

Table 12. Contingency Table Comparing Recidivists' and Non-Recidivists' On Drinking Problems as Measured by the MAST Scores

	Recidivists N=25	Non-Recidivists N=25
Low	1 (4%)	2 (8.3%)
Moderate	2 (8%)	1 (4%)
High	12 (48%)	10 (40%)
Very High	10 (20%)	10 (40%)

The chi-square statistic was not calculated because of extremely low counts in the moderate and low categories; however, examination of the table clearly shows that there was no significant differences between the groups. Both group samples had problems with drinking.

Target Population

Offenders that are not under community supervision, but have substance abuse problems and are not compulsorily required to participate in Substance Abuse Treatment Programs.

Profile Restrictiveness Approach

Offenders who have not received group and or individual counseling treatment, anger management, life skills training, and drug abused treatment, and alcohol education.

Limitation

The scope of this study was limited to female DUI recidivists and non-recidivists who voluntarily participated in prison rehabilitation programs. This study also included those female DUI recidivists and non-recidivists who were incarcerated for a second or more times for DUI and those incarcerated for the first time for DUI.

The population that was excluded from this study was female offenders that was identified as in-patient mental health inmates. Mental health inmates are those

offenders whose institutional profiles reflected that they were classified to mental health case loads.

In fact, in an institution such as Georgia Women's Prison, some treatment programs are restrictive in nature. Some inmates were not allowed to participate in treatment programs unless their crimes were related to the program culture. Traditionally, only those inmates whose institutional records showed the treatment needs of the program and how the program participation could help the inmate stop the revolving door of prison incarceration are allowed to participate in the program. The examples of such programs are: the battered women's group, clemency group for life imprisoned offenders, sex offenders group for inmates involved in child molestation and other sex-related crimes, inmate mothers group, and drug education group. Since those programs were restricted to those inmates whose criminal offenses were related to the specific rehabilitation treatment, they were not used in this study. Those rehabilitation programs did not allow voluntary participation to all inmates at the Georgia Women's Prison. This study examined voluntary participation in rehabilitation programs such as alcohol anonymous group, drug education, children of alcoholic parents, health awareness group, and various other groups. Those treatment programs that restricted inmates' voluntary participation were not used. Using them would

affect the variable of voluntary participation in this study.

There was probability of errors for female recidivism rate and parole revocations computed by Smith (1991). Smith and Hadley (1991) also computed the parole revocations and recidivism rates for males and females in the State of Georgia. Smith and Hadley's data were computed generally for administrative records and policy issues. The validity of the results of their data analysis for parole revocations or recidivism rates may be questionable due to the fact that most of their analyses were based on computer generated information and records compiled by Georgia Department of Corrections Field Employees at various prisons. This information was generated by the intake or admission personnel, the diagnostic testing personnel, parole revocation records, and others. Because of some probability of uncontrollable errors, data generated and analyzed by other people may be difficult to establish as accurate. Therefore, drawing inferences from their result for generalization in this study may not be feasible. Secondary data were used to test all the variables in the hypotheses. These data was derived from the test results. Those test results include MAST, DAST, IQ data, and Wrat scores. These instruments were administered by qualified diagnostic staff at Georgia Women's Prison. The methods used for administering and collecting the data also may have uncontrollable errors.

Definition Of Terms

In order to clarify the various terms used in this study, they are defined within the context in which they used:

Alcohol - Include: legal alcoholic beverages such as beer, liquor, and others.

Attendance - The records of inmates' participation in treatment session of at least one meeting.

Drugs - Include: cocaine, heroine, and all other illegal drugs.

DUI - Driving Under Influence.

HTV - Habitual Traffic Violators.

Female DUI Recidivists - Female inmates whose institutional files reflect that they were in prison two or more times for the crime of DUI. For the purpose of this study, recidivism refers only to prison incarceration. This definition eliminates incarceration in jails, reformatories, work houses, and so on.

First Term DUI Offenders/ Non-Recidivist -

Females imprisoned for the first time for DUI, excluding those arrest and incarcerated in jails for their first DUI offense.

Low Educational Level - WRAT scores below 0.5 grade level.

Low IQ - IQ scores 70 and below.

Offenders / Inmates - Those females that are presently incarcerated in prison.

Severity- Reflected seriousness.

Severity of Substance Abuse - Female DUI inmates with chronic histories of substance abuse.

Substance Abuse - Includes Drugs and Alcohol.

Treatment / Rehabilitation Programs - Treatment and Rehabilitation programs refer to all existing self-help programs that allow voluntary participation. These programs include drug education, alcoholics anonymous, classroom education, vocational training, and self-awareness programs.

Voluntary Participation - Offenders freely joined treatment programs without coercion or a mandatory requirement for participation by the parole board.

Significance Of The Study

Alcoholism and its effects on the human physical function and activities have been popularly established in many scholarly researches. In fact, its medical and psychological associations have witnessed diverse literature in contemporary years (APA, 1985; Bates, 1989; Caudill, Wilson and Abrahams, 1987; Ellis and Schoenfeld, 1990; Gomberg, 1993). However, most contemporary studies have devoted attention to studying psychological needs and psychiatric problems among women (BORIONES, Heller, Chlfant, *Roberts, Aguirre-Hachbaum and Farr*, 1990; Gomberg, 1993; Collins, 1993; Evans and Sullivan, 1990; Gomberg, 1993; Hoffman, Norman, Miller, 1993; Rogler and Cortes, 1993). Other studies have focused on female familial alcoholism (Alterman el al., 1987; Frances, Timm and Bucky, 1980; Glenn and Parson, 1989).

Some researchers have also focused on the characteristics of women drinking behaviors (Bates, 1989; Hilton and Clark, 1987; Reynolds, Kunce and Cope, 1991). Even in 1960s and 1970s, few studies were devoted on female alcoholism and criminal behaviors (Bowker, 1978; Brodsky, 1975; Cahalan, Cisin and Crossley, 1969; Hyman, 1968; Oatman, 1979; Simon, 1975; Sutherland and Cressey, 1978; Winslow, 1968). Even though much literature has been published on alcoholism and its various effects on human beings, scanty literature still exist on women offenders who have voluntarily participated in prison rehabilitation programs while in prison.

In our free society, treatment of any disease is voluntary. Individuals in the society have the right to seek treatment or refuse treatment while observing the norms of the society. In some situations, friends, neighbors, or immediate family members usually assist their loved ones in seeking treatment. In fact, the framework of treatment is to assist the individual in achieving and sustaining lasting healing process from the disease (Collins, 1993, p.34).

Female offenders represent a special population that we view as individuals who need help in understanding

their criminal behavioral lifestyles. They need help to solve various factors contributing to their criminality. One wonders whether participation in prison rehabilitation programs voluntarily is a sufficient method for assisting these female offenders in dealing with those various factors.

Many studies have been devoted to understanding male prisoners' participations in rehabilitation programs. Those studies have been used to design treatment for male populations (Bowker, 1978; Davidson, 1982). Treatment designed for male have been applied for years to female prisoners (Davidson, 1982). The validity of the results of such programs to female offenders are highly questionable.

Most contemporary scholars have viewed women as a "special population" (Closser and Blow, p.1999). In fact, problems confronting women in our society need a scientific research approach. Davidson (1982) specified that "many criminological textbooks were published for many years without mentioning female criminals or causes of their delinquent behaviors" (p.51). Crime has always remained a serious problem, and need systematic inquiry on various factors contributing to its occurrence has remained paramount. Alcoholism is one of those factors that has been associated with deviant behaviors (Higgins and Butler, 1982).

This research sets a stage for the study of female criminals' voluntary participation in rehabilitation programs in prison. It must be recognized that voluntary participation in treatment programs are key elements that distinguished this study from those other numerous studies discussed earlier. The elements of voluntary participation in the prison treatment programs cause to wonder how feasible it is for female offenders to participate in treatment options voluntarily. Treatment of the disease of alcohol can be frustrating, especially, when an individual has an extensive histories of drinking problem. This type of treatment is likely to confront humiliating failures. In fact, long histories of drug use could lead to the temptation of utilizing the immediate gratification offered by drugs and other addictive substances. The frustration in treatment induces the feeling of helplessness in treatment efforts (Marlatt and Gordon, 1987).

Closser and Blow (1993) believed that a wide variety of treatment services may induce motivation for women's participation in treatment. Women need some of the same treatment services as men, such as detoxification, education, support, and treatment of comorbid physical and psychiatric disorders. Women, however, may require that even more attention be paid to child care concerns, psychiatric and mental disorders, building of self-esteem, education of family and friends, and vocational assessment and training. Women generally benefit less from confrontation in treatment and more from a supportive and skill-building approach. Many women are unfortunately, already quite familiar with the state of

powerlessness and may need more help identifying their strengths (p. 202). Some researchers have viewed women's problems not from a criminality standpoint, but from a state of powerlessness in coping with the normative dictates of the society. There is a need to assist women in identifying their strengths by examining those factors that impede their abilities to utilize self-help programs voluntarily. Closser and Blow claimed that women have worse treatment outcomes than men. Thus, it is important to evaluate women's histories of psychotropic drug use and other psychiatric symptomatology, in order to establish whether these problems have significant impact on their abilities to seek help voluntarily.

Many studies (Beckman and Amaro, 1985; Briones et al., 1990; Closser and Blow, 1993; Collins, 1993; Ellis and Schoenfeld, 1990; Gilbert and Maxwell, 1987; Hoffman, Norman and Miller, 1993; Leukefeld and Tims, 1992; U.S. Dept. of Justice, 1992) have focused attention on intervention strategies and the use of alcohol treatment facilities for outpatient therapeutic basis. None have focused solely on factors affecting female DUI offenders' voluntary participation in prison rehabilitation programs. Therefore, this population warrants investigation.

Theoretical and Conceptual Framework

The concept and empirical phenomenon of an analytical framework of this study is the issue of drunkenness and its effects on human physical and cognitive functions. The concept of drunkenness provides a theoretical system within which a comprehension of the biological and physical impairments of human behavior and personal lifestyles can be achieved. It is within this theoretical framework that our study is based. Some scholars (Argeriou and Paulino, 1976; Bates, 1989; Caudill, Wilson, and Abrams, 1987; Ellis and Schoenfeld, 1990) theorized that the effects of alcoholism on human's visual and physical activities could be deadly when one drinks too much. Sociological and personality theories have been used by some scholars to explain human behaviors in the society.

Drinking is both a learned behavior and a genetically transmitted behavior. A brief discussion of the sociological, behavioral, and biological theories of alcohol drinking process and its effects on human development reveals some important information.

In sociological theories, Whitaker (1985) points out that "every family is a miniature society, a social order with its own rules, structure, leadership, language, style of living, and zeitgeist" (p. 78). It is within this freedom of structural family formation that individuals follow their own course during the socialization process. In fact, early cognitive activities for some people are developed based on the activities within the family. These activities are the

Table 13. Contingency Table Comparing Recidivists and Non-Recidivists on their Drug Problems as Measured by the DAST Scores

	Recidivists N=25	Non-Recidivists N=25
Low	13 (52%)	13 (52%)
Moderate or Slight	6 (24%)	5 (20%)
High or very high	6 (24%)	7 (28%)

The chi-square was not significant, $\chi^2(2)=0.17$, $p=.920$, therefore, we conclude that there was no significant difference between the two groups with respect to their drug problems.

structural basis for the person's future connection to the outside environments.

Bronfenbrenner (1979) specified that a family should be a "mediating agent between the external environment and human behavior" (p.244). People's behaviors should be regulated. The regulative framework focused on the degree of intentions, goals, and behavioral functions of individuals (Nesselroade and Eye, 1985). Therefore, the sociological viewpoint of drunkenness relies on the fact that human "action is not just a behavioral, but behavior that is subject to interpretation, reconstructions, reviews, and evaluation" (p.257).

Behavioral theories propose that the behaviors of alcoholics vary. The behaviors are not uniform, "they vary across numerous dimensions" (Ciminero et al., 1986, p.451). Bourne, Jr. and Ekastrand (1976) points out that their behaviors generally tend to be immature, impulsive, and individuals that have low self-esteem and feelings of not living up to their own goals and standards. They also display an inability to tolerate failures. Other researchers (Baron and Byrne, 1991; Bates, 1989; Gomberg, 1993) have specified that many variables are associated with low self-esteem that is largely induced by alcoholism. Anxiety, depression, and other personality factors are also variables that are associated with alcoholism. These variables impose serious concern to human beings and treatment specialists when excessive drinking of alcohol becomes a behavioral disturbance, and the drinkers could no longer carry out their personal affairs effectively. It becomes more serious when this lifestyle interferes with their work and upsets their family relationships. An example of this situation is the fact that the behavioral disturbances of a female drunkard appears to be more offensive to her family and the public when she gets too drunk to perform normal activities. Her behavioral performances becomes severely offensive to the public when she could no longer sleep in her home and is seen on park benches in the public recreation parks (Higgins and Butler, 1982). Beyond these situations, there are disturbing incidences parallels between substance abuse, violence, and vandalism. There appears to be at least some link between the abuse of these substances and antisocial acts committed by those abusing them (Siegel

and Senna, 1981). These parallels produced numerous prohibitions against public drunkenness and sleeping on the park benches. Some scholars, Sykes (1978) and Argeriou and Paulino (1976) argued that the definition of alcoholism and what constitutes public drunkenness. They defined drunkenness based on behavioral effects produced by alcohol. Stapleton, Guthrie, and Linnoila (1986) conceptualized alcoholism as a disease with diverse effects "that reduces driving ability" (p.426). Alcohol drinking also functions primarily to free inhibitions and induces unconscious behavioral acts. These behavioral acts contribute to marital conflicts and divorce. Gomberg (1993) stipulates that "alcoholic women report more marital disruption than alcoholic men" (p.215). Marital separation is much more likely to occur among alcoholic women than with alcoholic men (Shore et al., 1988). The biological theory on the other hand looks at the neurological damage caused by chronic drinking. The biological theories proposes that chronic alcohol drinking destroys the central nervous system and may cause severe and sometimes, irreversible disturbance, especially among the middle aged and elderly.

As "women remain the largest group of addicts (Kilbey and Asghar, 1992, p.306), they experience serious breaks in their nervous system and undergo biological changes in the hormonal and "sexual desires" (Gomberg, 1993, p.214). The epitome of this disease is that alcoholism has diverse interlocks with various social problems in our society. Its examination in this study has been limited to its effects among the users while driving a vehicle under the influence of alcohol.

Literature Review

The review of literature in this study is presented in two sections. The first section consists of a theoretical concept of the rehabilitation programs in the penal institution. Other theoretical perspectives include theories on alcoholism, and speculations on its etiology. The second section presents the issues of recidivism or repeat incarceration due to alcoholism. Explored are the causes of this repeat behavior, and the effects of alcohol

on personal lifestyles.

Prison Rehabilitation Programs: The earlier studies suggested that the treatment of women prisoners was brutal, inhumane, and humiliating (Bartollas and Miller, 1978; Cloward and Ohlin, 1960; Lemner, 1958; Merton, 1968; Winslow, 1968). The earlier penal models were primitive and based on the rationale of retaliation for wrong doing (Sykes, 1978). According to Sykes, the primitive model relied on an irrational desire for vengeance. "Mutilations, hangings, burning, banishment, and branding were the more serious forms of punishment" (Bartollas and Miller, 1978, p.24). In the past, those methods were utilized to induce behavioral changes among criminals. However, the society and the social control agents have shifted from those primitive means to a structural rehabilitation model. Our penal institutions no longer punish offenders with the intention of vengeance as was the case in the past. Punishments in the twentieth century had resorted to the requirement that each offender be able to participate and complete various prison rehabilitation programs. The twenty first century prisoners have witnessing convergence of rehabilitation units made available by various grant funding from both government and private foundations. This shift in the style of punishment of criminals was due to the "positivism theory" (Vold, 1979, p.41). This theory believes that individuals have the ability to change their behavior through therapeutic involvements. While shift in punishment was inevitable, DUI offenders are still at risk for abnormal lifestyles in our society due to the negative personality factors associated with drinking behaviors.

Evenson (1986); Ellis and Schoenfield (1990) have confirmed that personality factors significantly affect DUI offenders and chronic alcoholics' participation in programs. Studies by Baron and Byrne, 1991; Bellie, 1987; Bottomley and Pease, 1986; Hagan, 1987; Harrison and Bellie, 1987; Klofas, Stojkovic, and Kalinich, 1990) have confirmed that multi-social variables contribute to abnormal behaviors, and series of biological, sociological, cultural differences, and psychological factors affect DUI offenders and their participation in treatment programs voluntarily.

Siegel (1983) pointed out that "alcoholism is a serious problem because treatment efforts to help chronic sufferers have not proved successful" (p.381). The DUI offenders, both the recidivists and non-recidivists suffer from this unsuccessful treatment efforts as well. The study conducted by Grobsmith et al. (1990) on Native American offenders incarcerated for substance abuse indicated a great disparity on the level of compliance to treatment, attendance to treatment, and voluntary participation in treatment upon release from prison on parole. According to Grobsmith et al., many of these recidivists and non-recidivists stayed in prison several months and were released from prison without voluntarily participating in available prison rehabilitation programs.

Theoretical Perspectives of Alcoholism

Alcoholism has been conceptualized as a disease (Ciminero et al., 1986; Ellis and Schoendeld, 1990). "Delirium tremens, hypertension, hallucinations, seizures, and internal bleeding are frequent concomitants of chronic alcoholism" (Collins, 1993, p.39). Scholars have theorized about the nature of this disease and provided various techniques for diagnosing individuals with this problem (Collins, 1993; Gomberg, 1993; Hoffman and Miller, 1993; NIJ, 1985; O'Farrell and Langenbucher, 1987). The essence of diagnoses is assess the extent to which drinking behavior interferes with the person's social, marital, occupational, and health functions (Ciminero et al., 1986).

Gomberg (1993) and Collins (1993) have associated alcoholism as the main cause of mental health and mental retardation. Alcoholism also contributes to a compulsive disorder (dipsomania) (Lundin, 1974). Many inpatient and outpatient populations are at risk in their social life, due to an involvement with drugs and alcohol. Inpatient populations however, "suffer a great extent of co-existing emotional, social, and vocational problems" (Hoffman and Miller, 1993, p. 129). Curtis (1983) stated that heavy drinkers are at risk for severe and often fatal liver disease. Disulfiram reaction, as well as medical or psychiatric illness are associated with deviant behaviors.

Moderate dietary consumption of alcohol does not constitute a problem or reflect deviancy; however, deviancy itself often reflects high rates of alcohol consumption, which tends to interfere with human social activities. For example, in 1978, the alleged deviant lifestyle of homosexual relationships was labelled by Davison and Neale as a product of alcoholism expressed unconsciously due to the presence of alcohol (Higgins and Butler, 1982). Although many alcoholics are not homosexual, they do suffer similar psychological and behavioral symptoms. Reynolds et al., (1991) pointed out that alcoholics tend to suffer from low self-esteem and are impulsive, hostile, and aggressive.

Even though alcohol itself is a legal drug, some users are likely to act violently due to its effects on "physiological function, cognitive ability, and mood" (U.S. Department of Justice, Dec. 1992, p.5). Effects produced by alcohol and illegal drugs are not unique to one class. They affect various groups of the society. However, "incidence appears to be higher in the middle and upper socioeconomic levels" (Bourne, Jr. and Ekstrand, 1976, p.408). Gomberg (1993) Claimed that "most drinking among women occurs during the young adult years from ages 21 to 34" (p.211). High incidences of alcohol among various class structures and age groups account for higher incidences of drug-related crimes in our society.

Higher crime rates have been associated with alcoholism and the tragic consequences of drunk driving on our roads (Bourne, Jr. and Ekstrand, 1976). Alcohol-

Table 14. t-Test Comparing the Ages of Recidivists and Non-Recidivists

	Mean	SD	t	df	p
Recidivists	31.92	4.39	1.736	48	.089
Non-Recidivists	34.40	5.64			

Table 14 shows t-test performed to compare the ages of the two groups. While non-recidivists group were clearly older than recidivists group, the difference was not significant, $t(48)=1.736$, $p=.089$.

related crimes in our society have been noted by various researchers. Their studies show a strong "link between alcohol use and violence" (U.S. Department of Justice, 1992, p. 5). Gomborg (1993) specified that the "epidemic of women's drinking problems" (p.211) contributes to high crime rates among those with drinking problems.

Life stressors contribute to female alcoholics, and women are "more likely to report depressive symptoms than men" (Closser and Blow, 1993, p. 200). Alcohol and other drugs are associated with "social isolation, antisocial behavior, unemployment, and reduced work productivity" Kumpfer and Hopkins, 1993, p.11). Alcoholism is the most common cause of deaths in society due to both biological and psychological malfunctions, and largely due to its strong alterations of people's judgment, especially when they drive while intoxicated (Closser and Blow, 1993; Collins, 1993; Gomborg, 1993; KumpfWeisel, 1990; Zimmer, 1er and Hopkins, 1993).

McConnell (1977) pointed out that alcoholism contributed to a significant number of deaths in our society. "More than 12,000 people die each year from chronic alcoholism, and another 25,000 are killed each year on highway accidents by drunk drivers" (pp.556-557). Even though these figures appear obsolete, the National Household Survey on Drug Abuse reported on the population estimates of 1991 that alcohol use among families is still on the rise and a potential killer on our roads (NIDA, 1991). According to the H=Justice Department (1992) "more than 75 million persons in the U.S. Household Population have used illicit drugs" (p.26). Problems induced by alcoholism and other illegal drug use have continued to pose serious problems for law enforcement agencies, and have contributed to a huge financial burden in our efforts to control, prevent, and treat its effects in the society (Kleiman and Smith, 1990; Mahar, 1989; Moore, 1990; The Financial Action Task Force, 1991; Weisel, 1990; Zimmer, (1990).

Etiological Speculations

There is probably no single cause for alcoholism (Bourne, Jr. and Ekstrand, 1976). It appears that people drink alcohol as a means of "expressing their socialization" (Bell, 1976, p.158). They begin to suffer from alcoholism when its usage increases and when they become

preoccupied with alcohol, lose control over its consumption, or become intoxicated in the process.

Bourne, Jr. and Ekstrand (1976) believed that anxiety from personal problems induces some people to learn and develop drinking behavior as a way of coping with these problems. Anxiety disorder has also been associated with alcoholism. Chronic consumption of alcohol appears to have become a powerful reinforce in reducing the symptoms of anxiety (Ellis and Schoenfeld, 1990). The drug develops a powerful control over one's personal problems, and anxiety manifests itself as the alcohol gradually wears away.

Anxiety is not the only reason why people drink heavily; "a woman's heavy drinking behavior is related to the drinking of her significant other" (Gomborg, 1993, p.211). The problem of abusive drinking among women is growing as the number of young alcoholic women has rapidly "increased over the past decade" (Closser and Blow, 1993, p.200)

Alterman et al. (1987) stipulated that other researchers have found evidence of a genetic influence in alcoholism. Genes are biochemical products that determine combinations of similarities and differences between individuals of related descent. Furthermore, some families with histories of alcoholism include various members with an inherit vulnerability for the disease of alcohol (Alterman et al., 1987; Frances et.al., 1980; Mckenna and pickens, 1981).

Etiological explanations of who becomes an alcoholic remain speculative. Symptomatalogical theories tend to include such areas as the onset of the disease or how a person becomes more involved in drinking, the adaptation to continuous drinking behavior, and the obvious ignorance of the general health risk associated with drinking problems (Ciminero, 1986; Ellis and Schoenfeld, 1990). In fact, the cause of alcoholism can be explained by a multi-factor approach and more than a single factor theory. Both should be examined from the psychopathological standpoint rather than mere speculation.

One of the pathological aspects of this disease is the tolerance level of alcohol among the user. Serious problems of abuse occur as the user tolerates the quantities consumed and ignores the general symptoms of abusiveness (Siegel and Senna, 1981). These symptoms may affect the individual's neuropsychology and contribute to a deficit in IQ level. We will examine

some empirical studies on alcoholism using studies conducted by Gordon et al., 1988; Kivlahan et al., 1989; Shore et al., 1988, and Grobsmith and Dan, 1990.

Alcoholics and Neuropsychological impairments

Gordon, Kennedy, and McPeake (1988) conducted a small scale study assessing treatment considerations and the rehabilitation of alcoholics. Their study investigated "neuropsychological deficits in alcoholics, using the Impairment Index and the scores from the category Test, Tactical Performance Test (Localization), and part B of the Trail Making Test from the Halstead Reitan Test Battery" (p.100). Their sample of 23 male and 7 female inpatients had an average age of 47, 12.5 mean years of formal schooling, and a mean full scale IQ of 92.4.

The data collected were measured with an IQ scale. The scale revealed impairments across all indicators despite the average IQ level. These impairments revealed a variety of neuropsychological deficits among those persons defined as chronic in alcohol consumption. These deficits included learning and memory skill disabilities, visuo-spatial and visuo-motor impairments, and impairments in abstract reasoning ability, critical judgment, and conceptual tracking.

Gordon et al.'s results are critical because of the uncertainty of the results in the physical and verbal skills of the alcoholics. "Most of these deficits are not obvious" (p.100). Their conclusion is quite speculative. Their conclusion claimed that neuro-psychologically impaired alcoholics are not able to organize and integrate materials in alcoholic treatment programs. Their study did not take into account some pre-existing "organic brain syndromes" (American Psychiatric Association, DSM-111, 1980, P.372) that may have contributed to the disorientation in the alcoholics' cognitive deficits. Gordon et al.'s analysis undermined the DSM-III disorders which states that "neuroses are distributed among other classes, each defined by shared symptoms or other descriptive characteristics (DSM-III, P.376).

The results described by Gordon et al are not confined to neuro-psychologically impaired, they are similar to the results obtained by Connors, O'Farrell, Cutter, and Thompson (1987) on "Dose-Related Effects of Alcohol among Male Alcoholics, Problem Drinkers and Non-problem Drinkers" (pp.461-466). Connors et al.'s study reviewed cognitive variations among alcoholics, problem drinkers and non-alcoholics. Unlike Gordon et al.'s claim that all neurologically impaired are incapable of organizing and integrating materials due to impairments from alcoholism. Connor et al., deviated from this generalized conclusion. The cognitive ability to organize and integrate in treatment programs for alcoholics and non-problem drinkers did not differ. This was due to the fact that problem drinkers were expected to be significantly less impairment than non-problem drinkers.

The behavioral deficit in Gordon et al.'s sample could be due to genetic differences which was not even accounted for in the study. Poor prognosis appears to be significant in Gordon et al.'s sample, and may have contributed to the negative results from the sample.

Kivlahan et al., (1989) pointed out that "cognitive performance is unrelated to symptoms of alcohol" (p.173). There is the probability that most of the deficit observed in the study resulted from resistance and alcohol tolerance rate and not necessarily from cerebral dysfunction. It could also be due to conscious and unconscious psycho-dynamic effects among alcoholics.

Gordon et al.'s subjects' rehabilitation and treatment outcomes reviewed that they needed both time and recovery from cognitive skill impairments and a cognitive rehabilitation program. Connors et al., (1987) specified that therapeutic interventions that focuses on the development of techniques or strategies for coping skills and assertiveness would improve cognition and help regain control over deficit traits.

Alcohol Dependency Syndrome

Kivlahan, Sher, and Donovan (1989) investigated the degree of alcohol dependence in 268 men by using Skinner and Allen's Alcohol Dependence Scale (ADS). The scale is a 29 item self-report instrument for assessing alcohol dependence syndrome. The subjects had been admitted for inpatient treatment to the Seattle Veterans Administration Medical Center. The subjects participated in both an inpatient program and a nine month after care program. Treatment outcome data revealed that:

Those patients who completed inpatient treatment were predominantly White (90.3%), were aged from 22 to 70 years (mean [+SD] =45.7+11.9 and 76.6% had completed at least a high school education (mean=12.4+2.8). (Kivlahan et al., 1989, p.171).

Kivlahan et al.'s sample reported daily alcohol consumption. Regular meals were missed when drinking. Many reported common effects such as loss of control after drinking, blackouts, withdrawal symptoms, and early morning drinking. Kivlahan et al.'s sample also showed results that were similar to "binges to daily heavy drinking which corresponds to the fifth-digit subtype episode" in APA DSM-III (1981, p. 169).

The Alcohol Dependency Syndrome Scores in Kivlahan et al.'s study contain some variance compared to Skinner and Allen's (1982). The variance affected the ADS Scores in Kivlahan et al.'s results. The correlates of concurrent validity findings reported by Skinner and Allen were not restricted. Those reported by Kivlahan et al. in ADS results were restricted. In fact, they "restricted the magnitude of correlation measures" (p. 173). Although, Kivlahan et al.'s study contained "a high degree of internal consistency" (p. 174), it lacked construct validity

needed for assessment of alcohol dependence. This deficiency was due to its lack of central focus in its contextual facts in instrumental design.

Kivlahan et al. used Hollingshead Index of Social Position to reveal the subjects' socioeconomic class level. The scale indicated that 86.2% of the patients were either in the lower-middle class or the lower class. Patients' admission data revealed that 31.5% were married, and 90 days prior to admission, 20.8% of the patients had gained full-time jobs. It should be noted that Kivlahan et al.'s study contained significant disparity in inpatient outcomes when compared with earlier studies by Skinner and Allen (1982), and Skinner and Horn (1984). Skinner and Horn mean score on ADS was more significant with less variant. Kivlahan et al.'s mean "was significantly lower than Skinner and Allen's sample on outpatients" (p.172). Skinner and Horn's study showed more significance in inpatients sample compared to Kivlahan et al.'s sample. Although, the internal consistency for the latter sample was high, their "psychometric findings were roughly comparable to those reported by Skinner and Allen" (p.172).

Kivlahan et al. used the Edwards Social Desirability Scale (1957), a 13-item instrument to measure patients' social desirable responses. The results revealed weaker relationships among the sample when compared with "the corresponding association reported for Skinner and Allen's outpatients sample ($r = -.51$)" (p.172). However, the inpatient treatment sample did show a large and significant difference between the mean scores of the 82 patients who revealed that they sought treatment due to driving while intoxicated and the 160 patients who claimed other reasons for seeking treatment. The inpatient treatment sample they studied did reveal on significant correlation in the area of association. The association signified that some of the inpatients did suffer from slight drinking problems. The researchers found "significance but weak association between the level of alcohol dependence and drinking relapse status ($rpb = .16, p < .05$)" (Kivlahan et al., 1989, p.173).

Arrest Study for Women Driving Under the Influence of Alcohol in Wichita, Kansas

Shore, McCoy, Toonen, and Kuntz (1988) studied women arrested for driving under the influence of alcohol (DUI) in Wichita, Kansas, for a 5year period (from 1980 to 1984). Their data were from the record of the Wichita Police Department. They found an increase (from 10.6% to 14.5%) in percentage of women arrested for DUI within that period. More than half of the DUI women had jobs outside their residence, and a greater number (30.8%) had no jobs when they were arrested. At the time of their arrest, blood alcohol level tests indicated an average of 183mg/mg/dl, using BAL testing instrument for dictating blood alcohol content in the body system (p.7).

Data obtained from the city of Wichita, Kansas by Shore et al., that were used to determine the blood alcohol level were inconsistent. They did not appear to be representative of the populations they were taken from. "All files did not contain all the information and BAL Tests, for example, were not administered to all arrested women" (pp.7-8).

In a more closely related study conducted by McCarty and Argeriou (1988), their data appeared to have shown a representative sample. Their results were consistent across the dimensions of demographic data, the arrest data, and the charges filed.

Shore et al.'s results showed higher discrepancies in their arrest data due to records of repeat arrests on the same subject. There was no indication of any effort made by the researchers to either eliminate or minimize the duplication of the arrest data on the same subject during the data collection. Although, duplication was due to the need to calculate the recidivism rate among the subjects, this resulted in a cluster of data within the same subjects leading into more serious inconsistencies in the results. The researchers noted that "multiple DUI arrests of 46 (7.43%) of the women" (p.8) accounted more for this discrepancies and inconsistencies.

It should be noted that the DUI recidivism rate (7.43%) reported in Shore et al.'s data is critical due to the fact that the results of the data failed to dichotomize those arrests that occurred outside the jurisdiction of the Wichita Police Department, and those that occurred within the city of Wichita. The researchers noted that they may have underestimated the recidivism for those that were arrested outside the city limit. Therefore, the "recidivism rate does not reflect possible arrests outside the jurisdiction of the Wichita Police Department and may therefore, be an underestimation of recidivism within this group" (p.8). The researchers also found some variations between weekly and weekend arrests. Comparison of the arrest data showed that DUI occurred on the weekends than weekdays. Shore et al. stated that Hyman (1968) and Podolsky (1985) considered the weekend as a time of typical DUI activity.

Another study by Argeriou and Paulino (1976) showed more arrests on Thursdays than during the regular weekend. Shore et al. compared the arrest data of women investigated with the arrest data of men sampled from 1982 through 1984 in a study in the same vicinity. Their comparative approach showed a significant difference between the two studies " $(x^2 = 24.14, 6df, p < .001)$ " (p.9). The results of these studies revealed that arrest of women are "more evenly distributed over the week, while that of men increased more sharply as the weekend approaches nearer" (p.9). The behavioral differences between men and women during arrests was noted by the researchers. Women see their arrest to be traumatic and more distasteful than men. This "serves as more powerful secondary prevention strategy for women than it does for men" (p.10). The study suggested that the

arrests for women in Wichita, Kansas increased, indicating an increased certainty of prosecution and incarceration. The data failed to examine the level of protection for these women by the Wichita Police Department and also the judicial system's failure in requiring mandatory participation in treatment programs for the majority of the women repeat offenders. The behaviors of the law enforcement and the judiciary may be the contributory factor in women's drinking problems in the city of Wichita. These factors may be part of the reasons why drunk driving for these women was high.

Substance Abuse rehabilitation Programs

Grobsmith and Dam (1990) investigated "substance abuse treatment and recidivism rates among Native American offenders" (pp.405-425). They collected data from alcohol rehabilitation programs in prisons through personal interviews with correctional employees serving those programs, repeat offenders, prisoners, parolees, ex-offenders, and the parole board. The researchers examined the parole revocation process.

The researchers also examined the issue of recidivism and the nature of treatment opportunities for offenders who returned to prison, and offenders who were paroled from prison. Also examined was the use of rehabilitation programs during incarceration and the use of follow up treatments. However, it should be noted that Grobsmith and Dam (1990) limited their definition of recidivism to:

Reentering the system due to commission of a new felony within 3years of either being released on parole or completion of one's sentence, or reentering the system following revocation included a new felony charge (as when a parole leaves the state), (p.407).

This definition of recidivism is broad. It does not differentiate the meaning of the word system from jail, half-way house, reformatories, rehabilitation centers, and so on. Since the research included ex-offenders, paroles, and aftercare treatment units, it can be assumed that the definition

Of recidivism includes those offenders not necessarily incarcerated but who had contact with the criminal justice system through rehabilitation effort, even after their release from prison and jail. Therefore, the word system may include half-way house, jails, reformatories, prisons, rehabilitation centers, and similar facilities. According to Grobsmith and Dam, recidivism rates for alcohol-related offense among Native Americans is high, as indicated by [table 3](#).

Findings show that recidivism rates for alcohol-related offenses are higher than 24%. About 46% of these offenders had returned to prison due to revocation, and 40% had new contact with the criminal justice system due to a repeat of their offense. Drinking cost ex-offenders their freedom and subsequently returns them to prison. Generally, treatment facilities were available, though ex-

offenders showed no interest involving in rigorous treatment commitments.

Grobsmith and Dam pointed out that parole failures are due to loss of sobriety (p.4100). These researchers also stated that parole failures are due to change of residence, employment, and absconds which is leaving without permission from Parole Board. Grobsmith and Dam's research did not show whether these violations have significant relationship with rehabilitation programs. There was also no mention of which parole conditions were more responsible for parole violations nor which rehabilitation programs were responsible for parole failures. The research has a great deal of generalizations for parole failures. Apparently, not all parolees failed to make successful parole due to sobriety. Even though this study was restricted to "Native American Offenders" there was no statistical data employed to explain the percentages of the recidivism, parolees, and incarcerated offenders who were used in their study.

Grobsmith and Dam's data collection was based on secondary data (gathered from programs available on incarcerated individuals) and information obtained from personal interviews. The problem with secondary data is that it may have some errors that the secondary researcher is unable to notice (Bailey, 1982; Nachmias and Nachmia, 1987). Information gathered by Grobsmith and Dam on program participation for offenders contains errors as well. Researchers familiarized themselves with the treatment centers and probed the facilitators and parole officials for data collection purposes. The researchers asked the facilitators various questions. In fact, the questions that the researchers asked respondents may have yielded inconsistent and "impaired data" (Bailey, 1982, p.201) due to the unstructured nature of their interviews. Unstructured interviews are "as neutral as possible and rely on why?" (p.201). The problem with unstructured interviews is that they induce the researcher to be biased. Grobsmith and Dam's study used unstructured personal interviews to gain control of "publicly known ex-offenders who were willing to share their experiences" (p.407). This process appeared to have produced inconsistent and impaired data in the analysis of recidivism, inpatient treatment analysis, and returns to prison that were due to new alcohol-related offenses. There was no explanations as to which program witnessed more parole failures. Thus, measuring parole failures with rehabilitation programs was not possible since there was no mention of how many of such treatment programs available for offenders both in prison and after their release from prison. In fact, parole failures could be due to the relatively small number of treatment facilities available to the offenders in prison and the few aftercare programs that are available to ex-offenders and parolees. The relatively small number may be a significant factor contributing to recidivism rates. According to Grobsmith and Dam, the Native American prisoners received little or no treatments either

before or after their release from prison. This situation appears to be among the strong contributing factors for their recidivism rates. Grobsmith and Dam (1990) noted that: Certainly, with a population of ex-offenders who have had little or no opportunity for therapy in prison, the risk of failure at treatment is greater (p.423).

Grobsmith and Dam concluded that it is possible that inmates will stay in prison until their release or parole without even addressing or receiving therapy on the disease that contributed to their deviant behavior. Because of this situation, inmates are more likely to "repeat history" (p.424) in our criminal justice system. Grobsmith and Dam's study appears to be preoccupied with non-program participation among those offenders. It did not review the economic, mental, and financial constraint of the ex-offenders and incarcerated offenders. Such variables could be among the strong factors affecting their behaviors for program participation upon released from prison and also return to the system. Financial constraints could play an even stronger role for their new contact with the system, even after their involvement in rehabilitation programs. These situations suggest for further research.

Other Studies

O'Farrell and Langenbucher (1987) and Maisto, O'Farrell, McKay, and Connors (1988) investigated behavioral responses of alcoholics and relapse or factors that contribute to return to bad habits. Both studies found strong links between poor involvement in treatments and relapse. In other studies, Poikolainen and Salla (1986) and Gilbert and Maxwell (1987) found that follow-up treatment and detoxication for the disease of alcohol reduced the traits of recurrence. However, Mischke and Venneri (1987) found DUI assessment appropriate using the MAST instrument for explaining behaviors of the alcoholics and the degree of alcohol involvement among patients.

Driving Under Influence (DUI) and Repeat Drinkers

Our society has a problem with drunk drivers (Bourne, Jr. and Ekstrand, 1976, McConnell, 1977; Siegel, 1983). Siegel pointed out that "alcohol related activities pose a serious problem for the criminal justice system" (p.380). Alcohol blurs vision and disrupts the molecular process that allows a person to see objects and hear sounds correctly (McConnell, 1977). Stapleton, Guthrie, and Linnolia (1986) pointed out that:

The effects of alcohol and other psychotropic drugs on eye movements are reviewed with particular attention to the possible relevance of these effects for traffic safety. Alcohol has been shown to have diverse effects, including reduction of the velocity of both saccadic and

smooth pursuit eye movements, increased saccadic latency, impairment of convergence and induction of nystagmus. These effects probably contribute to impaired visual information processing, which reduces driving ability, (p.426).

Traffic safety is always the general concern of the motorists on our roads in both big and small cities. That which may affect one driver's driving method (i.e., alterations by drugs, etc.) may be disastrous to another motorist on the road. As mentioned earlier, alcohol affects "both saccadic and smooth eye movements" (Stapleton et al., 1986, p.426) in human vision.

Bates (1989) studied the effect of repeated episodes of alcohol intoxication on visual sensitivity and decision making. Using blood alcohol levels of four female subjects, the researcher found that acute intake of alcohol greatly impacted decisional criteria data. Visual sensitivity also had a statistically significant shift, signifying visual obscurity due to repeated or excessive alcohol intake.

Nagoshi and Wilson's study (1989) on long-term repeatability of human alcohol metabolism, sensitivity, and acute tolerance revealed that:

Repeatability of pre-alcohol baseline scores were generally high (medium 0.55) for the shortened battery of physiological, motor condition, perceptual speed and reaction time measures. Repeatability was near zero for sensitivity scores (medium 0.02) and were low for acute tolerance scores (medium 0.10) and perceived intoxication (medium 0.27). These findings are highly consistent with earlier report on repeatability of responses to alcohol, (p.162).

Repeated drinking of alcoholic beverages progress in the blood stream as the alcoholic drinks more and more alcohol. This progression induces distortion of the drinker's personality as motor condition become altered and visual sensitivity diminishes.

Hilton and Clark (1987) reviewed studies by Wilsnack et al. in 1981, 1984, and 1986. Their 1981 study focused on drinking patterns among women. The results of the study revealed little change in their (women's) drinking patterns between 1971 and 1981. Drinking under the influence contribute significantly to almost half of all fatal motor vehicle accidents (Kisker, 1977). Siegel (1983) stated that:

In California, legislation may be achieving positive results. Under a new law, a drunk driver faces a maximum of six months in jail, a \$500 fine, suspension of operator's license for six months, and impounding of the vehicle. As a minimum penalty, the first offender could get four days in jail, a \$375 fine, and loss of license for six months or three years' probation, a \$375 fine, and either two days in jail or restricted driving privileges for ninety days. Preliminary reports indicated that the strict new policies may be working. Accidents and fatalities are down in 1982, and nearly nine hundred drunken drivers have had their licenses suspended, compared with

seventy two in a comparable 1981 period, (p.381).

Legislation against drunk drivers have led to an increase in the number of arrests for those driving while intoxicated nationwide (U.S. Dept. of Justice, 1992). Women have become more vulnerable to alcoholism. Evenson (1986) found women had higher correlations with beer drinking than men. Linsky, Colby, Jr. and Straus' correlational study (1986) used a proscriptive Norm Index to analyze the statistical significance for disruptive behaviors of the alcoholic and their arrest data. Researchers found that there is positive significant correlation between disruptive alcohol-related behaviors and the arrest for DUI. The findings also showed significance for the arrest rates of other alcohol-related offenses, and the percentages of all arrests for all other alcohol related offenses were high.

SUMMARY

Criminal behaviors and health related effects have been associated with the disease of alcohol (Ellis and Schoenfeld, 1990). Its etiological speculation have been centered on socialization process (Bell, 1976). Some scholars (Cadore et al., 1980; Cloninger et al., 1981, and Goodwin et al., 1973) claimed that its etiological factors were due to generic effects. However, other scholars claimed that alcoholism restraint neural functioning in the lower brain (McConnell, 1977), induces behavioral disturbance (Lundin, 1974) and public indecency and drunk driving (Sykes, 1978). While these speculations are still in existence, there is no single study that has obviously concluded the exact causes of the disease of alcohol (Ellis and Schoenfeld, 1990).

In the 1980s, scholars (Gordon et al., 1988; Kivlahan et al 1989; Shore et al., 1988 and Stapleton et al., 1986) have conducted series of research on treatment of the disease. Treatment was based on the understanding of the effects of the disease. Stapleton et al. (1986) found that saccadic and smooth eye movements are blurred by alcohol consumption. Acute intake of alcohol could impact decisional criteria and consequently impact visual sensitivity (Bates, 1989).

DATA COLLECTION

Driving under the influence is a serious concern of most people. Scholars have used various methodological approaches to test the relationship of various social factors associated with DUI offense (Cahalan, Cisin and Crossley, 1969; Hinz, 1990; Jacob and Leonard, 1986; O'Farrell and Langenbucher, 1987; Rees, 1986; Schuckit, 1980).

This study explores rehabilitation programs at Georgia Women's Prisons and the examination of voluntary participation among female DUI prisoners. The study

compared female DUI recidivist and female DUI non-recidivist voluntary participation in institutionalized rehabilitation programs. Data for this comparison were derived from inmates' institutional records. The study assessed those factors that most likely affect voluntary attendance or participation in prison rehabilitation programs. A causal comparative research design was adopted in this study.

METHOD

Subjects

The target research sample was 25 female DUI recidivist and 25 female DUI non-recidivist offenders who were between 25 and 46 years old at the time of admission into prison. Subjects were randomly selected from a large pool of female inmates imprisoned at Georgia Women's Prisons between January 1990 and January 1993. None of the subjects' present incarceration was for drug offenses (such as cocaine, heroine, and other related drugs) at the time of this study. Those with a prior or present history of psychiatric disorder, which placed them in the prison's mental health unit were eliminated from the sample.

Sampling

A random sample procedure was used for selecting DUI inmates. A computer-generated (The OTIS) list of all female inmates at prison in the State of Georgia were used for this selection process. The OTIS is the offender tracking information system. Information in the system has been generated by Georgia Department of Corrections' Facility and Operation Unit. The list is diverse and includes a population of nurses, homeless people, house wives, college dropouts, drug dealers, non-educated persons, social welfare recipients, and those from all walks of life, who are at Georgia Women's Prisons for DUI offenses. Since OTIS contains the crime types, admission data, and diagnostic profiles of each offender, it was very useful in the selection process.

Random sampling provided a chance for each member of the DUI population to be chosen for this study. Therefore, randomization has the elements of equality and independence in the selection process (Hopkins et al., 1987; Nowaczyk, 1988; Runyon and Haber, 1971). Randomization could work to "cancel out the effects of systematic errors caused by extrinsic variables that may be associated with either the dependent or independent variable" (Nachmias and Nachmias, 1987, p.117). Subjects for this study were randomly selected by the staff at Georgia Department of Corrections, Evaluations and Statistics. The Office of Evaluations and Statistics

maintains records of all Georgia female inmates and their crime types.

Field Procedures: inmate names, and state identification numbers

The investigator was permitted by Georgia Department of Corrections (The Office of Evaluation, Research, and Statistics) to conduct this study. A copy of the proposal was forwarded for review and approval. All necessary approval processes were strictly followed by the investigator. Necessary changes were made to comply with their departmental research standards. The investigator strictly adhered to subjects' protection by excluding the use of inmate names, State identification numbers, and other study.

The investigator adopted the following field procedures for data collection:

1. Subjects who met the criteria used in this study were chosen from the list of DUI inmates randomly selected by the Georgia Department of Correction's research division.
2. Rehabilitation programs in existence from 1990 to 1993 were identified.
3. Inmates' institutional files were used for identifying programs each subject participated in and completed.
4. Inmates' diagnostic profiles were reviewed for the results of the Michigan Alcoholism Screening Test (MAST) and Drug Abuse Screening Test (DAST).
5. Inmates' educational levels were reviewed and reported in the Wide Range Achievement Test Score (WRAT).
6. The results from mental health screening interview manual (MHSIM) and the results about violence potential (BDI) were reviewed.
7. IQ scores obtained from the Culture Fair Test were reviewed.

Measures

The independent measures used in this study were severity of alcoholism, traits of other drug abuse, presence of undiagnosed psychiatric disorders, violent potential, educational, and IQ level. MAST measured severity of alcoholism, DAST measured drug abuse, MHSIM measured psychiatric symptoms, BDI measured symptoms of violent behavior, and WRAT scores measured educational levels.

The dependent measures of this study were inmates' perceptions of the treatment programs and inmates' self-referrals to programs. Perception of rehabilitation program depended on how subjects perceived treatment goals. Inmates' self-referrals were measured by the

attendance records. Attendance records showed how many subjects sought self-help programs voluntarily.

Culture Fair Test

The investigator utilized the results from the Culture Fair Test Scales to determine whether IQ levels had significant impact on inmates' voluntary participation in institutionalized rehabilitation programs. The Culture Fair Test Scales were administered in a group situation in the prison. The test design required inmates to differentiate relationships in shapes and figures. The Culture Fair Test Scales 2 and 3 have been reported as reliable. According to The Institute for Personality and Ability Test (1973), the average internal consistency of the items in scale 2 is .87, and scale 3 is .85.

The Culture Fair Test contains predictive validity and was used to measure intelligence and behavior ratings. According to the Institute for Personality and Ability Testing (1973) "all coefficients in the Culture Fair Test were respectably high and have been evaluated across large and diverse samples" (p.9).

An answer sheet or booklet is used to obtain the raw scores. These raw scores are placed in machine-scoring instrument for conversion to interpretable standard score. Each converted score shows the level of intelligent quotient for each subject. These levels were grouped as: 0-69= borderline impairment; 70-89= poor IQ; 90-109= low; 110-125= average IQ; 126-up= above average IQ.

Michigan Alcoholism Screening Test (MAST)

The Georgia Department of Corrections screens alcohol and drug abusers utilizing The Michigan Alcoholism Screening Test (MAST) and Drug Abuse Screening Test (DAST) to determine the severity of substance abuse among inmates entering Georgia prisons. The Michigan Alcoholism Screening Test (MAST) was developed by Selzer (1971) at the University of Michigan Medical School at Ann Arbor, Michigan. MAST is a 25-item questionnaire designed for screening alcohol-related problems and alcoholism. Since its development, it has remained the most popular screening test for alcoholism (Keyser and Sweetland, 1985). Ross et al. (1990) indicated that MAST has maintained an overall accuracy rate of 88%. According to Ross et al., the validity of MAST for the current Diagnostic and Statistical Manual of Mental Disorders (DSM III) is high. Thus, MAST has been shown to be a reliable and valid screening instrument for clinical (Jacobson, 1976; Skinner, 1979) and non-clinical measures (Freed, 1973; Jacobson, 1976). In this study, the MAST instrument was administered by a diagnostic staff member (Behavior Specialist) at the time inmates were still in the diagnostic classification unit. Data were

collected from the inmates' profiles and offender information tracking system (OTIS).

The scoring method used for this study was recommended by Selzer et al. (1975). The recommendation for scoring categories was as follows: 0-1 for non-alcoholic (low), 2 for possible alcoholic (moderate or high alcoholic abuse), 3 or greater for alcoholic (severely abused person).

Drug Abuse Screening Test (DAST)

The psychometric properties of Drug Abuse Screening Test (DAST) has maintained a validity "maximum accuracy of 89%, and exhibited a high level of sensitivity, specificity and overall accuracy over a cutoff range from 5/6 to 10/11" (Staley and El-Guebaly, 1990, p.260). Its classification process uses DSM-III for Substance Abuse Diagnosis in a clinical environment. According to Staley and El-Guebaly DAST has maintained high specificity, and its sensitivity has an overall accuracy rate of above 85% in substance abuse diagnosis.

The scoring procedures for DAST data were recommended by Skinner (1982). The scoring method was presented in appendix B. According to Skinner, all DAST items have from moderate to substantially high or greater in the item analysis system.

Mental Health Screening Interview Manual (MHSIM)

The mental health screening battery (MHSIM) was utilized to attest or confirm whether there were undiagnosed psychiatric disorders present that could retard the offender's interest in voluntary participation. The validity of mental health screenings were established by the Georgia Department of Corrections by comparing ratings from inmates' clinical interviews with computer-generated predictions for inmate's potential for violence, suicide, victimization, substance abuse, behavioral problems, and mental illness (NIJ. and Ga. DOC., 1985). Clinical interviews and personal interviews were used in this study in order to determine the presence of personality or psychiatric disorders. This information lead to conclusion as to whether or not participation in rehabilitation programs was due to undiagnosed psychiatric disorders.

The Mental Health Interview Manual ratings rates individuals in eight categories. These ratings are as follows: (1) Superior for unusually effective functioning in social relations, occupational functioning, and use of leisure time; (2) Very good for better than an average functioning in social relations, occupational functioning, and use of leisure time; (3) Good for more than slight impairment in either social or occupational functioning; (4) Fair for marked impairment in either social relations or occupational functioning, or some impairment in both; (5)

Poor for marked impairment in either social relations or occupational functioning, or moderate impairment in both; (6) Very poor for marked impairment in both social relations and occupational functioning; (7) Gross for marked impairment in virtually all areas of functioning, and (8) unspecified for no information or no answer was given.

Buss-Durkee Inventory

The Buss-Durkee Inventory (1957) was used to predict if violent behaviors were in the recidivists and non-recidivists samples. The reason for the BDI was to assess if there were symptoms of violence that may be retarding subjects' interest in self-referral to rehabilitation programs. The validity of BDI and its internal consistency were reported as good (Buss-Durkee, 1957; Maiuro et al., 1988).

The variables associated with BDI inventory are assault, indirect hostility, irrationality, negativism, resentment, suspicion, and verbal hostility. The degree of the occurrence of each of these variables as reported in BDI inventory is rated as low, moderate, high, and severe.

Hypotheses

Three hypotheses were tested in this study. These hypotheses were null-hypotheses. Leedy (1980) states that null-hypotheses assists the researcher "in establishing a statistical base against which a situation may be tested" (p.27). Bailey (1982) states that a null-hypothesis is a "hypothesis of no difference" (p.404). These null-hypotheses include:

1. There was no significance difference between female DUI/ programs.
2. There was no significance difference between female DUI/HTV recidivists' and non-recidivists' program complete rates.
3. Educational level, IQ level, violence potential, and age will adversely affect voluntary participation and completion rates in prison rehabilitation programs. HTV recidivists' and non-recidivists' voluntary attendance in prison rehabilitation programs.

DATA ANALYSIS

The data analysis for this study was based on the above three hypotheses. Chi-square was used to test the differences between variables of participation or attendance and completion of rehabilitation programs in hypotheses one and two. "Chi-square (χ^2) is a frequently used test of significance in social sciences" (Babbie, 1986, p.422). According to Babbie, chi-square is based

on the assumption that there is no relationship between two or more variables in the total population. Chi-square is suitable for this study because it tests non-related variables from both the dependent and independent samples.

The Mann-Whitney U-test determines whether the medians of two independent samples differ from each other. The Wilcoxon Rank Sum Test determines whether two samples differ from each other to a significant degree when a relationship appear to exist. The Sign Test and The Median Test are sign test for two independence samples. In fact, none of these tests are appropriate for this study because they test only the independent variables.

Multiple regression analysis is used when two or more variables are utilized to predict a single variable. Regression analysis is popular for prediction (Bailey, 1986). It is used in hypothesis three in this study for prediction analysis.

Pearson product moment correlation and bi-serial correlations are parametric correlations used for predicting relationships of two or more variables. Spearman rank-order correlation and Kendall's coefficient of concordance are non-parametric correlations used for predicting rank orders (Leedy, 1980). The above correlations measure are not appropriate for this study because they use correlation metrics, while multiple regression uses "causal models, which attempt to show causal relationships rather than mere correlations among variables" (Bailey, 1982, p.390).

The t-test scores are prominent in doctoral research. T-scores are "normalized standard scores" (Aiken, Jr. 1971, p.311). It is mostly used for testing two group mean differences when comparing two groups, and it is suitable for this study. It is used for the test of significance.

FINDINGS

The results of the findings were analyzed in three sections. The first section was analyzed using the chi-square to test hypotheses one and two. The second section was analyzed using multiple regression to test hypothesis three. The final analysis used t-test to test minor hypotheses adopted in this study. These three analyses are presented as follows:

Null Hypothesis 1.

The first null hypothesis was that there was no significant difference between female DUI recidivists' and non-recidivists' voluntary attendance in prison rehabilitation programs. Data showed that 11 (44%) of the subjects in the recidivists sample participated in one or more rehabilitation programs, compared to 4 (16%) for the non-recidivists sample. The computed chi-square value

revealed that the difference was not significant, $\chi^2(1) = 3.43$, $p = .064$, although, caution should be observed because one of the cells was less than 5.

Null-Hypothesis 2

The second null hypothesis was that there was no significant difference between female DUI recidivists' and non-recidivists' program completion rates. While some of the subjects participated in rehabilitation programs, the actual number completing those programs was relatively small.

Null Hypothesis 3

The third hypothesis was that educational level, IQ level, violence potential, and age would adversely affect voluntary participation and completion rates in prison rehabilitation programs. Multiple regression was used to examine this hypothesis. The dependent variable was the number of voluntary rehabilitation programs that the subjects participated in. The independent variables were MAST scores, DAST scores, MHSIM scores, BDI scores, reading scores, math scores, spelling scores, IQ scores, and age. The F-ratio for the multiple regression was not significant, $F(10,38) = 0.502$, $P = .878$; therefore, we fail to reject the third hypothesis. Furthermore, the corrected r-squared (corrected for N's of less than 100) was 0.00, and we concluded that none of the variability in the number of programs that subjects participated in could be explained by knowing the independent variables.

Other Findings

Since differences exists between recidivists and non-recidivists on voluntary programs participation and completion rates, we decided to explore the variables in hypothesis three to search whether they impact on participation and completion rates. Due to this quest, minor hypotheses were established.

Minor Hypothesis 1

The null hypothesis was that there was no significant difference between recidivists and non-recidivists on educational level. Education was measured in three component areas: reading level, mathematical level, and spelling level.

(a) The reading component – The mean average reading score for all inmates in this study was 10.0 ($SD = 3.1$) and the median was 10.2. The distribution of reading scores was negatively skewed ($SK = -.77$), indicating that a few individuals had substantially lower

reading scores than the average.

(b) The mathematical component – The mean average math score for all inmates in this study was 7.3 (SD=1.7) and median was 7.2. The Kolmogorov-Smirnov statistic indicated that the distribution of math score approximated a normal distribution (KS=.92, $p>.05$).

(c) The spelling component – The mean spelling score for all inmates in this study was 8.8 (SD=3.5) and the median was 9.5. The distribution of spelling scores was negatively skewed, and quite flat (kurtosis=1.59), indicating that individuals' spelling skills were quite diverse.

Minor Hypothesis 2

The null hypothesis was that there was no significant difference between recidivists and non-recidivists on IQ scores. The mean IQ scores for all inmates in this study was 100.5 (SD=10.9), and the median was 103. The distribution of IQ scores was negatively skewed (skewness=-1.08), suggesting that some individuals had considerably lower IQ scores than the rest.

Minor Hypothesis 3

The null hypothesis was that there was no significant difference between recidivists and non-recidivists on BDI scores. The BDI measures the tendency to act violently. Since both groups had relatively low BDI scores, the data were re-categorized into three levels: (a) low, (b) slight, and (c) moderate to high. This was done in order to make it possible to use the chi-square test. The chi-square statistic was significant, $\chi^2(2)=6.15$, $p=.046$, although, it should be interpreted with caution because of a cell with a count of less than five.

Minor Hypothesis 4

The null hypothesis was that there was no significant difference between recidivists and non-recidivists on their potential for self-harm, as measured by the MHSIM. MHSIM scores for both groups were relatively low, therefore, the scores were re-categorized into three categories (low, slight, and moderate to high in [table 11](#)) in order to make calculation of the chi-square possible.

Minor Hypothesis 5

The null hypothesis stated that there was no significance difference between recidivists and non-recidivists on their drinking problems, as measured by the MAST. [Table 12](#) shows that 48% of the recidivists and 48% of

the non-recidivists had high drinking problems, while 40% in each group had very high problems with alcohol.

Minor Hypothesis 6

The null hypothesis was that there was no significant difference between recidivists and non-recidivists on their drug problems, as measured by the DAST. [Table 13](#) shows that 52% of the recidivists and 52% of the non-recidivists had low problems with drugs. In order to calculate a chi-square statistic, the data were re-categorized into three groups: (1) very high and high, (2) slight and moderate, and (3) low.

Minor Hypothesis 7

The null hypothesis was that there was no significant difference in the ages of the recidivist and non-recidivist samples. The mean average age of the samples was 33.2 (SD=5.2), and the median was 32.5 years.

CONCLUSIONS

As the society advances with the changing technology and economy, women's criminality witnesses substantial changes as well (Alder and Simon, 1979; Kumpfer and Hopkins, 1993) and these changes have continued since 1970s (Bowker, 1978 and Brodsky, 1975). Since drunk driving has been defined as crime in many parts of the world, many women have committed this offense. Previous studies (Argeriou and Paulino, 1976; Beckman and Amaro, 1984-85) showed that women have been involved in DUI tremendously. Some of the studies (Closser and Blow, 1993; Collins, 1993; Ellis and Schoenfeld, 1990) suggested the need for extensive therapeutic care for alcohol abuse and chemical dependents.

Our contemporary society is moving towards punishments of individuals involved in drunk driving offense rather than a therapeutic approach. The data analysis for this study found 80% of female DUI offenders in Georgia were incarcerated within a short period of time and released between two to three months without treating the disease of alcohol and other chemical dependency. In one Georgia county alone (i.e. Cobb), almost all female DUI offenders were sentenced to short sentences by the judge, and almost all were released from prison within a short period of incarceration. Why waste time and money sending them to prison in the first place, if they are not allowed to use the rehabilitation programs in the prison? Smith (1991) pointed out that "eighty-nine percent of all female inmates released in 1990 left prison through some action of the Georgia Board of Pardon and Paroles" (p.34). The present study

found out that most contemporary parole releases were made with special conditions attached to their parole. Slightly more than three-fourth (3/4) of all inmates were released with special conditions requiring them to participate in a substance abuse counseling program (upon release) until their parole officer authorizes termination. The question arises, how effective are those non-institutionalized therapeutic programs? If many of these women offenders were released from prison on special condition requiring them to participate in programs when released, there is need to explore this situation to investigate whether those out-door therapeutic programs as mandated by the parole board are working. Such investigation should consider to measure their effectiveness with recidivism rates for those who completed out-door rehabilitation programs that were mandated by the Parole Board.

Further research is needed to examine the success of non-institutionalized therapeutic programs, whether such programs are useful tools for the parolees, since the Parole Board explores them as an alternative means of treating the parolees upon released from prison. There is need to identify a combination of different social pressures inducing female DUI/HTV offenders to repeat history of incarcerations. It may be that lack of therapeutic involvements may be of the stronger factors contributing to an increase in DUI/HTV offenses.

The DUI/HTV offenders with short sentences should be incarcerated in rehabilitation centers and given maximum time to complete therapies before released to the society. Prison incarceration for short sentences is a careless waste of resources for the general public. The waste emerges because of the time spent with the offenders in the Diagnostic units conducting academic testing and evaluations, medical testing, psychological testing, counseling services, and the general costs for housing each DUI/HTV offender per night in prison or jail. These resources could be used more effectively with other offenders who actually have longer prison sentences and habitual criminals.

A change from incarceration of DUI misdemeanor offenses to stronger out-door therapeutic involvements will not only free up bed space in the prison, but, will also save exorbitant cost for incarcerating a misdemeanor offenses in prison. Government grants and subsidies should be given to out-door therapeutic agencies to improve rehabilitation programs for both ex-inmates and none prisoners in the society.

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