# The Criminal History of So-Called "Hard Core" Drinking Drivers

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## Abstract

*Although considerable attention has been given to the criminality of repeat drunk drivers multivariate analyses that control for other variables are absent in the literature. Furthermore, despite claims of increased criminality amongst so-called "hard core drinking drivers" investigations using a strict definition of the concept are also nonexistent. Arrest and criminal history data were used from an ethnically diverse random sample of drunk driver (DUI) arrestees (n=411) in Hawaii to determine whether hard core drinking drivers had more extensive criminal histories, exclusive of DUI and other traffic offenses, than other drunk drivers. A multivariate analysis that controlled for age, gender, ethnicity, and employment found that being a hard core drinking driver increased the total number of convictions (regardless of severity) and misdemeanor convictions, but not felony convictions and petty misdemeanor/violation convictions. Age and unemployment had a positive effect, while gender and ethnicity were statistically insignificant, in all models. Theoretical implications and suggestions for further research are discussed.*

## About the author

The author is an Associate Professor of Justice Administration at the University of Hawaiʻi - West Oʻahu.  He received a Bachelor of Arts in Psychology from the University of California, Santa Cruz.  Prior to attending graduate school, he worked for four years as a line-staff counselor and crisis intervention supervisor at a youth residential psychiatric facility in California.  He received a Master of Arts and Ph.D. in Sociology from the University of Hawaiʻi - Manoa.  His dissertation was a qualitative ethnography of marijuana (and by extension poly drug use) careers over the span of the War on Drugs.  His current research interests include drug use, drug policy, ethnography, corrections, program evaluation, and methodology. His most formative experience was working as a professional and volunteer ski patroller first responder for ten years as a young adult, where the consequences of mistakes were much greater than they are in academia.

**The Criminal History of So-Called "Hard Core" Drinking Drivers**

**Introduction**

Over the past twenty five to thirty years, there has been an increase in public attention on drunk driving, or driving under the influence (DUI).  Fortunately, the rates of alcohol-related traffic fatalities have steadily declined in the U.S. since the early 1980s (National Institute on Alcohol Abuse and Alcoholism, 2011).  However, despite these gains, a persistent group of offenders remain who repeatedly drive while intoxicated regardless of social interventions or legal sanctions (Cavaiola, Strohmetz, & Abreo, 2007; Chang, Lapham, & Wanberg, 2001; Hubicka, Laurell, & Bergman 2008; McMillen, Adams, Wells-Parker, Pang, & Anderson, 1992).  This resistance to treatment and/or deterrence suggests that DUI recidivists suffer from a multitude of social and psychological issues separate from drug dependence and propensity to drive while intoxicated (Cavaiola, et al., 2007; Chang, Lapham, & Wanberg, 2001; Freeman, Liossis, & David, 2006; Hubicka, et al., 2008; LaBrie, Kidman, Albanese, Peller, & Shaffer, 2007; Nochajski & Stasiewicz, 2006).

A variety of terms have been used to describe this group of persistent DUI offenders including "repeat offenders" (LaBrie, et al., 2007) and "DUI recidivists" (Cavaiola, et al., 2007), but "Hard Core Drinking Driver" (HCDD) emerged as a catchy term, heavily promoted by traffic safety organizations, government agencies, the alcohol industry, and advocacy groups (Chamberlain & Solomon, 2001; Simpson, et al., 2004; Williams, McCartt, & Ferguson, 2007).  While problems with the HCDD concept have been noted in the academic literature (Chamberlain & Solomon, 2001; Williams, McCartt, & Ferguson, 2007), the considerable attention devoted to the topic in academic, alcohol industry, and policy arenas alone warrants further investigation.

The premise of this article is that much of the research on the criminal history of all impaired drivers, and especially repeat offenders, has been merely descriptive in nature and is need of more

rigorous analytical methods.  Furthermore, despite proclamations that the HCDD is a "real criminal" (White & Gasperin, 2007:121), and that they exhibit "anti-social and/or deviant tendencies such as aggression and hostility" (Simpson et al., 1996:30), actual criminal history research, using a strict definition of HCDD, appears nonexistent.  HCDD is generally defined as either a repeat offender and/or any driver with a BAC of 0.15% or higher.  Given these claims, it is surprising that the reviews of the literature which reference HCDD criminality (The Century Council, 2011; Simpson, et al., 2004; White & Gasperin, 2007) actually come from only a part of the HCDD population - recidivists - and exclude first time offenders with the elevated BACs.  So there is limited information available on the criminality of DUI recidivists and actually none about HCDD.

In fact there are relatively few investigations of the criminal behaviors, separate from traffic offenses or DUI, of the general population of DUI offenders, let alone repeat offenders. This relative paucity of scholarship is somewhat surprising as the link between DUI and other criminality was established as early as Waller (1967).  However, as noted by Gould and Gould (1992), some projects have used sampling frames not representative of the general DUI population (e.g., Argeriou, McCarty, & Blacker, 1985; Lucker, Kruzich, & Gold, 1991; Yoder & Moore, 1973).  Additionally, of the studies that exist, the information about criminality is limited in scope and does not examine DUI offenders, or repeat DUI offenders, as a dependent measure (as do Gould & Gould, 1992 and Wells-Parker, et al., 1986), although a number of projects report it as an independent variable (Beerman, et al., 1988; Freeman, et al., 2006; Hubicka, et al., 2008; LaBrie, et al., 2007; McMillen, et al., 1992; Nochajski, et al., 1993; Norstrom, 1996; Siegal et al., 2000).  Most importantly, the studies that report criminal history either do so descriptively and/or do not use multivariate methods that control for important variables, such as age, gender, or socioeconomic status.  Consequently, additional inquires of the criminal history of drunk drivers, and especially HCCD, are needed.

*Criminal History of the General DUI Population*

A few studies describe the criminal involvement of the general population of DUI offenders. Nochajski, et al. (1993) reported that 47% had criminal histories separate from DUI and that the criminal history group was less responsive to treatment to lower drinking and DUI behavior. A study of DUI offenders in Mississippi (Wells-Parker, et al., 1986) found the vast majority of crimes centered around DUI (37%), other driving related offenses (33%), and public order offenses (21%). Approximately 9% of the sample had been arrested for "other" crimes, only some of which included crimes such as assault, grand larceny, breaking and entering, child abuse, and various drug charges; many of the charges in the other category included apparently less serious crimes such as shoplifting, trespassing, contempt of court, curfew violation, profanity, etc.

*Criminal History of DUI Recidivists*

Descriptive research on DUI recidivist criminality suggests roughly 40 to 60% have prior offenses (Beerman, et al., 1988; Freeman, et al., 2006; Gould & Gould, 1989 and 1992; Hubicka, et al., 2008; McMillen, et al., 1992). Beerman, et al. (1988) reported that 36% of repeat offenders had a prior conviction for a minor offense (e.g., disorderly conduct, destruction of property, shoplifting) and approximately 22% had prior convictions for "major" offenses (e.g., theft, assault, auto theft, parole violations). A representative sample of drunk drivers in Sweden showed 37% of recidivists had a history of other criminality compared to 12% of first time DUI offenders (Hubicka, et al., 2008). McMillen, et al. (1992) did not describe the proportion of repeat DUI offenders with a criminal history, but found the mean number of self reported non-traffic arrests were three times higher for recidivists than first-time offenders. Gould and Gould (1992) found that repeat DUI offenders had a greater number of criminal arrests than first time offenders for a variety of property (burglary and theft) and violent (robbery, assault, battery, and homicide) offenses and scored higher on the

INSLAW "career criminal" scale.

An extensive analysis of criminal history of recidivists examined a sample of 1,281 repeat DUI offenders who were offered treatment in lieu of incarceration for their most current DUI offense (LaBrie, et al., 2007). Just under half (49%) had criminal histories for crimes other than DUI; about 10% committed other substance related crimes, 18% committed crimes against property, 8% crimes against people, and approximately 13% crimes against both people and property. However, these results must be interpreted with caution, as the sampling frame likely systematically captured those with less extensive criminal histories, as presumably DUI offenders with more extensive histories would be less likely to be offered treatment in lieu of incarceration.

In summary, while it appears that DUI recidivists are more criminally involved than the general population of DUI offenders, there are relatively few studies of the criminal histories of this group. Research that does exist tends to report criminal data that are descriptive or bivariate in nature or otherwise limited in scope, while others have methodological limitations that warrant further investigation into this phenomenon. Moreover, despite claims of increased criminality of HCDD, research using a strict definition of the concept appears absent from the literature. Consequently, the goal of this paper is to determine whether HCDDs have more extensive criminal histories, *exclusive of DUI and other traffic offenses*, using a multivariate analysis that controls for age, gender, ethnicity, and employment.

**Methods**

The data are a combination of information recorded from a representative sample DUI arrest reports and adult criminal histories of DUI arrestees from a statewide database. A sample of DUI arrests (n=545) from the City and County of Honolulu was selected from the population of all arrests in a calendar year (N=2,180). As DUI arrests may fluctuate according to time of day, day of the

week, and time of the year (such as the Holidays), a systematic random sample (i.e. every fourth arrest in a chronological list of the 2,180 arrests) was used to produce data representative of the entire year. Hard copies of sampled arrest reports were pulled at the central police station and information was recorded on a coding sheet and later entered into SPSS (Statistical Package for the Social Sciences) on a personal computer.

The criminal records of each arrestee were downloaded from the criminal history database and combined with the arrest data. There was no "look back period" as the database included all criminal arrests and convictions since age 18. Criminal history data were missing and/or incomplete for an additional 85 arrestees in the original sample; due to missing values in some independent variables, each regression model included 411 cases with complete information.

*Test Variables*

The definition of hard core drinking drivers has varied, but was originated by Simpson and Mayhew in the early 1990s (Williams, McCartt, & Ferguson, 2007) and seeks to represent those who repeatedly drive at high BACs and are resistant to change. Simpson et al., (2004), define the concept as "drivers who have driven with a BAC of 0.15% or above, or with more than one recorded alcohol-impaired driving offense" (p.262-263).[1] Accordingly, a variable, HCDD, was created that included all arrestees with a BAC of 0.15% or above and/or those with one or more prior DUI convictions.

To measure the extent of criminal histories of HCDD separate from DUI and traffic offenses, dependent variables were computed by subtracting DUI and traffic convictions from the number of all convictions, felony convictions, misdemeanor convictions, and petty misdemeanor/violation

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[1] Simpson et al. (2004) acknowledge that this operational definition of HCDD, "probably misclassifies a few drivers as hard core, as others have noted…" (p. 263), yet argue such instances would be rare and, "most drivers satisfying either of the conditions in our operational definition…have driven repeatedly at high BAC's and so are hard core drinking drivers" (p. 263). For further criticism of the hard core concept see William, et al., (2007) and Chamberlain & Solomon (2011).

convictions.  Demographic characteristics such as age, gender, ethnicity and occupation were obtained

from the original arrest reports.  Age squared was used to account for non-linearity in the dependent

variables; the number of criminal convictions likely curve over the adult lifespan, probably peaking

during the 20's, and 30's (Sampson & Laub, 2003).

Due to the large number of ethnicities (n=37) and occupations (n=66) in the arrest reports, they

were grouped for the present analysis.   The process used was sufficiently complex to require

explanation.  Ethnicity is challenging to code in Hawaii.  The sample reflects the islands' ethnic

diversity, as 37 distinct ethnic combinations were recorded in the arrest reports.  Broad categories such

as Caucasian, African-American, Hispanic, Asian, etc. are not appropriate for this population.

Consequently, coding the ethnic groups required judgment by the author. "Dummy" variables for each

ethnic category were created and Caucasian/European was used as the reference category.

Occupation was included to control for social economic status (SES).  While a more robust

measure of SES would be desirable, demographic variables were limited to those included in the

original arrest reports.  There were 66 separate employment categories recorded in the arrest reports

that were grouped.   The employment categories were white collar (e.g., professor, pharmacist, pilot,

clerk, dental assistant), blue collar (e.g., carpenter, landscaper, dishwasher, security guard), military,

unemployed, student, and retired. These were also coded as dummy variables and white collar was

used as the reference category.  See Table 1 for a list of the variables and descriptive statistics.

Table 1:  Variables, Indicators, Mean, and Standard Deviations (n=411)

| Variables | Indicator | Mean | S.D. |
|---|---|---|---|
| Total Convictions | Total Convictions – (DUI Convictions & Traffic Convictions) | 0.71 | 2.31 |
| Total Misdemeanor Convictions | Total Misdemeanor Convictions – (Total Misdemeanor DUI & Traffic Convictions) | .45 | 1.40 |
| Age | Age in years | 33.18 | 12.55 |
| Age squared | Age in years$^2$ | 1257.89 | 998.46 |
| Hard Core Drinking Driver (HCDD) | 1=HCDD (BAC$\geq$0.15% and/or 1 or more prior DUI Convictions) | .47 | .50 |
| Male | 1=Male | .85 | .36 |
| African-American | 1=African-American | .04 | .20 |
| Japanese or Part-Japanese | 1=Japanese or Part-Japanese | .16 | .37 |
| Hawaiian or Part-Hawaiian | 1=Hawaiian or Part-Hawaiian | .22 | .41 |
| Other Pacific Islanders | 1=Other Pacific Islanders | .03 | .17 |
| Filipino | 1=Filipino | .06 | .24 |
| Other Asian | 1=Other Asian | .05 | .23 |
| Others and unknown ethnicity | 1=Others and unknown ethnicity | .13 | .34 |
| Blue Collar | 1=Blue Collar | .37 | .48 |
| Unemployed | 1=Unemployed | .13 | .34 |
| Military | 1=Military | .13 | .33 |
| Retired | 1=Retired | .03 | .17 |
| Student | 1=Student | .02 | .15 |

*Analysis*

Ordinary least squares (OLS) regression was used to determine whether HCDD have more extensive criminal histories, exclusive of DUI, compared to non-HCDD. Regression coefficients represent the effect of a one-unit change in the independent variable on the dependent variable while controlling for the effects of all other independent variables. Standardized regression coefficients assess the relative effect of each independent variable on the dependent variable.

Collinearity diagnostics were run on the both models using the variance inflation factor, or VIF, as a benchmark (VIF= 1 / tolerance). VIF's revealed a potential issue between age and age squared in both models (VIF's for age and age squared were approximately 50 and were less than 3 for all other independent variables). As such, separate models were run without age squared to determine if collinearity was indeed a problem. The results revealed no changes in the direction or statistical significance of the regression coefficients. As such, age squared was left in the model.

## Results

The regression models[2] returned significant results (as indicated by the *F*-Test) for the total number of convictions and total number of misdemeanors. The models for the total number of felony convictions and petty misdemeanor/violations were not significant at the .05 level. The statistically significant models are discussed in greater detail below.

*Total Number of Convictions*

The results (in Table 2) indicate that HCDD and all other independent variables account for 10.0% of the variation ($r^2$=.100) in the total number of criminal convictions. Specifically, holding

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[2]All four models were also run using transformed dependent variables (the natural log+1) however there were no substantive changes in the results. The same two models returned significant results as did the same independent variables (in the same directions). As would be expected from a mathematical transformation, there was slightly improved overall model fit; the r-squared increased from 10% to 15.0% for total convictions and from 12.6% to 13.4% for total misdemeanors. For the sake of plain-English explanations of the regression coefficients to a broader audience the non-transformed results are reported here. Importantly, the story told by either set of dependent variables does not change in a meaningful way.

constant all other independent variables being HCDD compared to non-HCDD increases the number

of convictions by 0.621. Age squared has a negative and statistically significant effect. In contrast,

age and unemployment have a positive and statistically significant effect on convictions. Being

unemployed compared to employed increases the number of convictions by 1.127.

Table 2: Regression Model for Total Number of Convictions

| Variable | | Unstandardized Coefficients | Standard Error | Standardized Coefficients |
|---|---|---|---|---|
| Age | ** | .220 | .061 | 1.223 |
| Age squared | * | -.003 | .001 | -1.174 |
| Hard Core Drinking Driver | * | .621 | .233 | .137 |
| Male | | .182 | .310 | .029 |
| African-American | | -.522 | .604 | -.044 |
| Japanese or Part-Japanese | | .186 | .340 | .029 |
| Hawaiian or Part-Hawaiian | | -.140 | .303 | -.026 |
| Other Pacific Islanders | | .271 | .700 | .019 |
| Filipino | | -.287 | .484 | -.030 |
| Other Asian | | .111 | .527 | .011 |
| Others and unknown ethnicity | | .108 | .364 | .016 |
| Blue Collar | | .245 | .268 | .052 |
| Unemployed | * | 1.127 | .370 | .164 |
| Military | | -.163 | .386 | -.023 |
| Retired | | 1.250 | .745 | .022 |
| Student | | .327 | 1.002 | .026 |
| Intercept | | -4.014 | 1.121 | |
| F=2.732 p<.001 | | | | |
| R-square = .100 | | | | |
| n=411 | | | | |
| * p < .01, two-tailed test of significance | | | | |
| ** p < .001, two-tailed test of significance | | | | |

*Total Number of Misdemeanor Convictions*

The results in (in Table 3) indicate that HCDD and all other independent variables account for 12.6% of the variation ($r^2$=.126) in the total number of Misdemeanor convictions. Specifically, holding constant all other independent variables being HCDD compared to non-HCDD increases the number of Misdemeanor convictions by 0.387. Again, age and unemployment have a positive and statistically significant effect and age squared has a negative and statistically significant effect on the dependent variable. Being unemployed compared to employed increases the number of Misdemeanor convictions by 0.604.

Table 3: Regression Model for Total Number of Misdemeanor Convictions

| Variable | | Unstandardized Coefficients | Standard Error | Standardized Coefficients |
|---|---|---|---|---|
| Age | ** | .128 | .034 | 1.259 |
| Age squared | * | -.001 | .000 | -1.175 |
| Hard Core Drinking Driver | * | .387 | .130 | .151 |
| Male | | .278 | .173 | .077 |
| African-American | | -.319 | .336 | -.048 |
| Japanese or Part-Japanese | | .168 | .189 | .047 |
| Hawaiian or Part-Hawaiian | | -.045 | .196 | -.014 |
| Other Pacific Islanders | | .338 | .390 | .042 |
| Filipino | | .050 | .270 | .009 |
| Other Asian | | .268 | .294 | .046 |
| Others and unknown ethnicity | | .309 | .203 | .080 |
| Blue Collar | | .189 | .149 | .071 |
| Unemployed | * | .604 | .206 | .155 |
| Military | | -.111 | .215 | -.028 |
| Retired | | .800 | .556 | .105 |
| Student | | .117 | .415 | .014 |
| Intercept | | -2.624 | .625 | |
| F=3.549  p<.001 | | | | |
| R-square = .126 | | | | |
| n=411 | | | | |
| * p < .01, two-tailed test of significance | | | | |
| ** p < .001, two-tailed test of significance | | | | |

## Discussion and Conclusions

The results support previous research showing that DUI recidivists (in this case HCDDs) have more extensive criminal histories, *separate from DUI and traffic offenses,* than other drunk drivers. However, most studies documenting this effect have either reported criminal history as an independent variable (Beerman, et al., 1988; McMillen, et al., 1992; Nochajski, et al., 1993) or relied upon descriptive and/or bivariate analyses (Freeman, et al., 2006; Gould & Gould, 1992), and none appear to have demonstrated this affect using a strict definition of HCDD. The present study adds to the DUI literature by demonstrating that HCDD effects are not only present, but remain *while controlling for several other independent variables* including age, gender, ethnicity, and employment. Consequently, this work expands upon prior findings while adding methodological sophistication to the analysis. Moreover, these data come from a society with considerably different ethnic demographics than previous studies, such as those conducted on the U.S. mainland, Scandinavia, and Australia, suggesting the phenomenon holds across diverse populations.[3]

The results show that HCDD increases the total number of misdemeanors and convictions (regardless of severity). While HCDD status had no effect on felony or petty misdemeanor/violations convictions, the findings confirm that DUI recidivists (and illustrate that HCDDs) are more criminally involved, *separate from DUI and other traffic offenses*, than other drunk drivers (Beerman, et al., 1988; Freeman, et al., 2006; Gould & Gould, 1992; LaBrie, et al., 2007; McMillen, et al., 1992; Nochajski & Stasiewicz, 2006; Nochajski, et al., 1993; Simpson, et al., 2004).

Three demographic variables significantly impacted criminality: age, age squared, and unemployment. The strong and positive effect of age on criminal convictions is obvious; advancing

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[3] As with data collected in any ethnically diverse city, the issue of generalization of results to more homogeneous population is of concern. However, since these findings replicate and confirm the results of other studies, the veracity of this statement should be viewed with at least cautious optimism.

age provides more "opportunity" to gain criminal convictions. The significance of age squared

suggests that criminality is curvilinear over the adult lifespan, likely peaking during the 20's and 30's

and lessening with advancing age (Sampson & Laub, 2003). Unemployment had a positive effect on

criminality, which is consistent with criminology research.[4]

However, these results should not be viewed as evidence in support of policies that "crack down"

or "get tough" on HCDDs. White & Gasperin's (2007) assertion that "the HCDD *is* a real criminal

and needs to be viewed and managed as such" (p. 121) and proposal that the criminal justice system

change its perception of HCDD accordingly appears misguided and also poor public policy. First, as

noted in detail in the introduction, this appears to be the first study to even demonstrate increased

criminality using a strict definition of HCDD, and further confirmation of these findings are required

as a basic tenet of social scientific inquiry. Secondly, these results examine criminality at a very

general level and only illustrate increased overall and mid-level criminal involvement (misdemeanors)

but not for serious felony crimes. Lastly, the cost effectiveness of a policy focusing enforcement and

deterrence efforts primarily on this group of impaired drivers has rightly been refuted by other

researchers who suggested that deterring the general population of drunk drivers is a more efficient

use of limited public resources (Fell, Tippetts, & Voas, 2010; Williams, et al., 2007).

Obviously, these data do not allow a determination of directional causality, but a reasonable

assumption is that drinking and driving behavior is a part of more generalized criminality, but not

necessarily its source. Among this sub group of DUI offenders, drinking and driving is best viewed *as

just one manifestation of a host of deviant behaviors*. Recidivists and HCDDs can be characterized as

having more issues than merely DUI whose "problems encompass anti-social or criminal behavior,

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[4] Here I wish to distinguish between association and causation and between the general and chronically criminal populations. Clearly within the latter population, unemployment and criminality are positively correlated; whether or not there is a causal relationship is a separate issue. For a more recent discussion of the topic please see Baron (2008).

and are manifest when the individuals are driving as well as when they are not" (Marowitz, 1998: 553).

Social policy regarding this problem is further complicated by the fact that, since recidivists suffer from a host of problems separate from alcoholism, they are unlikely to be helped by alcohol treatment alone (McMillen, et al., 1992; LaBrie, et. al, 2007; McMillen et. al, 1992; Nochajski, et. al, 1993). In fact, those re-offenders with a criminal history may need special attention in treatment; there may be two groups of repeat DUI offenders: one whose contact with the criminal justice system is limited to drunk diving and who appears to respond more readily to rehabilitation attempts, and a more entrenched group who have more generalized criminal histories and are less responsive to conventional treatments (LaBrie, et. al, 2007;McMillen et al 1992; Nochajski, et. al, 1993) and require distinct treatment modalities.

These results should be interpreted with caution. First, since this appears to be the first study of criminality of HCDD, using a strict definition of the concept, confirmation of these results is needed. An obvious suggestion for future research would be to include more controls for demographic variables, such as income and educational attainment into a multivariate analysis. Attempts to verify the accuracy of demographic variables recorded on arrest reports would also prove invaluable. As such, post arrest surveys might allow for more complete and more accurate demographic information. Researchers should compare the respective criminal histories of representative samples of HCDDs and the general population to determine whether or not HCDDs are more criminally involved than the average citizen, *using multivariate analyses*. One might hypothesize that since HCDD is an expression of deviance, they would have more extensive criminal histories than the general public. Future projects should also examine specific types of crime, rather than generalized criminality. It could be that HCDD is

more closely related to drug, property, or violent crime. Lastly, given the debate about the HCDD concept, the elements of DUI recidivism and elevated BAC should be examined separately to see to what extent each contribute to criminality.

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