# "EXAMINING RECIDIVISM RATES OF SUBSTANCE ABUSERS AND TREATMENT OPTIONS"

Michelle L. Foster

**Abstract**

The focus of this work is on analyzing recidivism rates for offenders who have received risk and needs assessments. This study uses data collected by the Los Angeles Probation Department from April 1997 to December 1997 for offenders placed on probation. The reoffending rates over three time periods are examined. The results of the logistic regression analysis are that offenders who have a drug abuse problem are more likely to offend at 12 months and 18 month timeframes rather than initially at 6 months. These results suggest the need for consistent, standard treatment over a longer period of time (more than one year) instead of a shorter timeframe (weeks or months).

## Introduction

"In 2002, an estimated 19.5 million Americans, or 8.3 percent of the population aged 12 or older, were current illicit drug users" (Substance Abuse and Mental Health Services Administration, NSDUH, 2003, 11). Additionally, in that same year, "the estimated number of persons aged 12 or older needing treatment for an alcohol problem was 18.6 million (7.9 percent of the total population)" (Substance Abuse and Mental Health Services Administration, NSDUH, 2003). These numbers are staggering. More concerning is that only a "fraction of those [persons with] substance use disorders receive *any* treatment" (Meara and Frank 2005, 1243). This recreates a revolving door. When examining these figures in terms of costs to society, it is clear that substance abuse disorders lead to high social costs, such as crime (Meara and Frank 2005). Debating the issue as to whether or not addicted offenders need treatment has been rather moot for years. The real questions are as follows. How should the correctional system properly assess offenders and match them with treatment need? What is the correct blend of treatment and therapy for the offender's condition? What length of time in treatment for substance abusers is necessary to achieve success?

According to Petersilia (2003) two-thirds of offenders are likely to reoffend within three years upon release from incarceration (v). Further, "three-quarters of all prisoners have a history of substance abuse" (Petersilia 2003, 3). Thus, a majority of offenders reoffend, and a large portion of those persons continue to face (or have faced)

issues with addiction. What led to this position that our nation faces with reoffending and addiction? One precipitating factor could have been the shift in correctional goals in the mid-1970s. The impetus for this shift was a report by Robert Martinson (1974) claiming that "nothing works" to rehabilitate offenders and prevent reoffending. The claims that treatment was ineffective possibly led to a movement to bring about a change in correctional ideology from rehabilitation toward punishment. Further, during the 1980s and into the 1990s the political climate had been undergoing dramatic changes. Faced with rising crime rates and drugs, society welcomed the change in sentencing sanctions from rehabilitation to tougher and longer prison sentences for offenders (MacKenzie 2006). With these changes, it was believed that offenders would be deterred and/or prevented from criminal activity. However, interestingly, a shift back to rehabilitation from these "get tough" policies resulted in renewed vigor to discover what works to reduce and prevent reoffending. Scholarship is replete with evidence that properly assessing risk for offending and providing services to assist offenders is the most beneficial approach. Fortunately, in recent years, governmental and correctional agencies have modernized their approaches and procedures. In recent years, guidelines and programs for proper risk and needs assessments and reentry programs to enable an easier transition from confinement has been the new direction endorsed by the American Correctional Association and many local and state governments. These changes have been important as properly assessing risk and providing services based on need is necessary if there is any hope with combatting the continuous cycle.

This paper aims to address some of the questions posed earlier; with a specific focus on substance abuse. This researcher conducted an analysis of secondary data which had been collected by the Los Angeles Probation Department in 1998 and 1999. Due to high recidivism rates and lack of accurately matching service with need, the probation department developed a task force which undertook the project of redesigning an accurate risk assessment tool and providing treatment services as assessments indicated. At the outset of the study, risk data were collected for each of the probationers. Next, a risk assessment instrument was designed and then implemented. Evaluations of reoffending outcomes were examined at three different time periods (6 months, 12 months and 18 months). This paper contains the results of the analysis. Of most interest are the results pertaining to substance abusers due to the incidence of recidivism rates with this population. This paper also takes the data one step further by suggesting that longer treatment periods should be a part of the guidelines required for offenders with current and/or chronic addictions. Prior to the discussion of the data, the relevant literature on the topic will be provided. Lastly, the importance of this analysis relative to corrections policy, along with limitations of this work, and concluding remarks will be provided.

## Literature Review

The studies available that utilize statistical techniques to determine the effectiveness of reentry programs have varying results. Further, many of the studies that include drug addicted offenders have had negative outcomes in terms of success

(MacKenzie 2006). It is conceivable, however, that studies which resulted in not obtaining a benefit could be attributed to methodological problems of the studies and lack of comparison groups in the analyses (Wilson, Gallagher, and MacKenzie 2000). One study, in particular, known for not achieving successful outcomes is Project Greenlight (GL) conducted by Wilson and Davis (2006). The study included a total of 735 (GL N=344, TSP N=278, Upstate N=113). Offenders in the TSP and Upstate groups were compared to the GL group. GL was designed to provide "intensive transitional services of relatively short duration in the eight-week period immediately before they were released" (Wilson and Davis 2006, 307).

Their analysis revealed that the GL group recidivated at a *higher* rate than either of the other two groups. This outcome was surprising, but likely predicable due to methodological problems and program design issues (Bouffard and Bergeron 2006). A possible problem with the program design could have been that providing services only for eight weeks prior to release is not enough time. Thus, one may conclude that services should be provided over a longer timeframe to achieve success (i.e., a reduction in reoffending). Andrews and Bonta (2006) note that if offenders are reassessed over shorter periods after programs are started, "the discovery of acute dynamic risk factors that will predict criminal occurrences" (56) can be determined and addressed leading to greater success. This approach may have brought the problems with GL to surface; leading to positive outcome. Even though not all studies have consistently yielded reductions in recidivism, it is clear that properly assessing risk and providing services

based on need is financially cost-effective and reduces social costs (Meara and Frank 2005).

A popular topic in the literature relating to the effectiveness of programs has been evidence-based corrections. Evidence-based corrections uses scientific evidence to determine if a program has been successful and also holds the agencies accountable for the results obtained (MacKenzie 2000, 2001, 2006). This practice is being advocated for in corrections literature. Flores et al. (2005) note how researchers have been suspecting that "practitioners responsible for providing rehabilitative services remain unaware of the empirical findings regarding effective interventions" (9). Therefore, there seems to be a disconnection between research and application. This lack of unity appears to be resulting in program outcomes that are ineffective; not because rehabilitation does not work as a whole, but because the rehabilitation programs are poorly designed. Specifically, practitioners seem to be "relying on common sense or traditional practices in place of scientific evidence" (Flores et al. 2005, 9). Latessa, Cullen, and Gendreau (2002) refer to this problem as "correctional quackery." Thus, if programs would utilize risk and needs assessments and direct the resources to the scientifically known causes for program failure, greater success would be achieved.

The available literature about understanding recidivism and rehabilitation are extensive, but can be categorized into five principles (proposed by Doris Layton MacKenzie (2006)). These principles include program integrity, criminogenic needs, skill-oriented and behavioral/cognitive models, risk and responsivity (MacKenzie 2006, 64). Andrews and Bonta's (2003) seminal work has demonstrated that for a rehabilitation

program to achieve the best success, the most important need that must be addressed is criminogenic need. Criminogenic need includes "criminal history, antisocial attitudes, associates and personality." These issues are referred to as the "big four;" which are key to enabling success (Flores 2005, 10).

A program, designed by researchers at the University of Maryland, was developed to identify what works in crime prevention to direct agencies to use these proven methods. This analysis revealed effective methods include rehabilitation programs that utilize skill development, cognitive-behavioral therapy, prison-based treatment for drug offenders, along with follow-up treatment, post-release, vocational programs and community employment programs (MacKenzie 2000). Essentially, since it has been well-established these methods are effective, then the next step is to identify those offenders who will most likely benefit from the rehabilitative services available and ensure those services are provided. This next phase is where risk and needs assessments are beneficial.

Risk can be understood as the danger posed by the offender to society and to himself by not refraining from criminal activity. If risk to and by an offender can be accurately determined, then preventive measures can be taken to reduce the likelihood the offender will return to antisocial and criminal behaviors. After risk is assessed, inmates are to be referred to treatment and program services particular to the inmates' needs. Scholars stress the necessity for proper risk and needs assessments to not only enable a smoother transition to "free society" (Harris and Keller 2005), but to also reduce the likelihood of reoffending (Manchak, Skeem and Douglas 2008). There are two types of

risk factors when assessing risk to the offender and the community (upon release). These factors include static and dynamic risk (Brown, St. Amand, and Zamble 2009). Static risk factors are circumstances of the offender which are not changeable. Prior criminal history, age and gender are examples of static risk factors (MacKenzie 2006). Dynamic risk factors are offender attributes such as substance abuse, criminal attitudes, criminal associates and employment that can be changed and are targeted in rehabilitation and reentry programs. These are risk factors that can be changed with proper treatment (Andrews and Bonta 2006; Brown, St. Amand, and Zamble 2009). The most common tool used in corrections to classify offenders and assess risk is known as the Level of Service Inventory-Revised (LSI-R) (Manchak, Skeem, and Douglas 2008; Siegel 2011). The LSI-R examines a total of 54 dynamic and static risk factors; among which include: criminal history, education, employment, alcohol and drug use (Siegel 2011, 346).

An example of a study incorporating the idea of risk and needs assessment was conducted by Hser, Polinsky, Maglione, and Anglin (1998) of 171 participants in community-based drug treatment programs revealed successful treatment can be obtained if needs are properly assessed. They recognized that providing treatment services specific to an offender's needs, rather than the same service for all, yielded positive results. Thus, treatment success was improved when offenders were properly assessed.

Next, Cecil, Drapkin, MacKenzie and Hickman (2000) utilized the technique developed by the University of Maryland in their analysis of evaluations of twelve adult basic education and five life skills programs (data collected in the 1980s and 1990s). Although the results of their study were inconclusive, they were promising. Specifically,

the authors found that the programs were effective, however, the results were not consistent across programs. Further analysis and more consistently designed programs were recommended to determine effectiveness across populations.

Brown, St. Amand and Zamble (2009) noted how risk assessments provide a good indication about who is likely to reoffend and that "an impeding failure can be prevented and effectively managed" (25). Their examination of 136 parolees in Ontario, Canada demonstrated that 36.8% were revoked (33). Revocations consisted of substance use, minor rule infractions, or additional rearrests and convictions. Of interest was offenders' adjustment with dynamic risk factor issues. With proper monitoring and assistance, difficulties with employment, financial and substance abuse difficulties" (37) decreased over time. Further, initially after release, the pressures persons faced were much higher and can lead to recidivism, however, overtime problems can level out and become less severe. This finding was also indicated by Brown et al. (2009).

The literature reviewed indicates that for a reduction in recidivism rates to occur, the correctional system needs to use proper risk and needs assessments. Even though it is known that identifying accurate risk factors is the first step toward success, disagreement remains over which risks are most important. Background characteristics, offender characteristics, and the like, amount to dozens of factors that can impact recidivism rates. The predictors are so numerous that properly assessing risk and matching service with need may be difficult. This reason leads to the worthiness of this study and others like it. The goal of this project is to understand how substance abusers can best be served by the corrections system. After reviewing the literature and risk

assessment tools, the recidivism predictors prevalent were selected for this analysis. Specifically, gender, race, background characteristics, such as education and family situation, employment status, drug and alcohol use, and mental health have all been included. These factors are known predictors for reoffending. This project is of interest because it appears that certain risk factors are more pervasive and need more lengthy and stringent treatment options to reduce reoffending. Specifically, drug and alcohol use and mental illness, if not treated accurately, can negatively impact offenders' lives. Further, even with successful risk instruments and treatment methods, for the other known risk factors (education, family situation, and employment status, for example), the likelihood of recidivism remains high if an offender has issues with addiction or a mental disorder. Addiction and mental disorders traverse all classes and social boundaries. This importance for proper risk assessments and treatment methods, especially for offenders with legal and illegal substance abuse disorders and issues with mental illness, are addressed in this project. For this analysis, the hypotheses are as follows:

1. Offenders who are assessed as suffering from a drug abuse problem are more likely to reoffend than persons who do not use illegal drugs.
2. Offenders who are assessed as suffering from alcohol abuse problems are more likely to reoffend than persons who do not have chronic alcohol use problems.
3. Offenders who are assessed as having issues regarding their mental health status are more likely to recidivate than persons who do not have a mental health disorder.

# Methods

## Data Source

The hypotheses will be tested using secondary data collected in 1998 to 1999 by the Los Angeles Probation Department from offenders placed on probation.[1] The probation department, having had issues with high recidivism rates, formed a task force to combat the problem. Goals of the project included: developing and implementing a reliable assessment instrument and ensuring all offenders receive the services recommended from the assessments. These goals reflect what has been documented in the literature regarding the need for properly assessing offenders and ensuring services are provided. The probation department designed an assessment instrument similar to Wisconsin's risk classification system, as it was determined by the main researchers, Turner and Fain, to be the most effective and internally consistent tool to emulate. After the offenders were assessed for risk in 1997, probationers were to receive services based on need as identified in the risk assessment instrument. Recidivism rates of the probationers were then examined by the probation department at 6 months, 12 months, and18 (total N=2,781). Failure (i.e., recidivism) in this study includes arrest/probation violation reviews for adult males and females for the three time periods.[1] Unfortunately,

[1] In 2003, the RAND Corporation reviewed the data and determined that assessment tool designed for the group examined in this paper was internally consistent and yielded valid and reliable reoffending rate results; See: Turner, S. & T. Fain. (2003). Validation of the Los Angeles County Probation Department's Risk and Needs Assessment Instruments. http://www.ncjrs.gov/pdffiles1/nij/grants/201303.pdf.

the available data do not describe in detail each treatment or service provided. The goal of the original study was to design and implement a proper risk tool and to ensure services and treatment were provided for each and every offender. Thus, neglecting to include the information about any treatment and services provided could have been reasonable given the intent of the project by Turner and Fain. Scholarly research has indicated that not accurately assessing offender risk and need, and not providing services to every offender, has been a known problem with many, if not all, agencies.

**Measures**

Recidivism rates at the 6 month, 12 month, and 18 month (N=330 for each period) timeframes will be examined for adult males and females placed on probation. The dependent variable is dichotomous, and deals with whether or not offenders were referred for violating the conditions of their probation (coded 0 for no referral and 1 for yes; referred for violating conditions). The independent variables are gender, race, drug use, alcohol use, family situation, education, employment and mental health. Gender and race were coded as dummy variables and were included in the analysis as control variables. Drug use was recoded 0 for no prior use, .5 for prior use, and 1 for current or chronic use. Alcohol use was recoded for 0 for no prior use, .5 for prior use, and 1 for current or chronic use.

The probationers' mental health was recoded 0 for no known problems, .5 for exhibiting some emotional problems (moderate level of functioning impairment) and 1 for chronically mentally ill (hospitalization or psychotic episode). The additional independent variables selected as controls included education, employment and family

situation. Education was recoded 0 for no high school or equivalent and 1 for attended or graduated from high school or equivalent or obtained GED. Employment was recoded to 0 for unemployed and 1 for employed. Lastly, family situation was recoded 0 for no conflict, .5 for temporary crisis, and 1 for repeated history of conflict. A total of 68 missing observations were deleted from the analysis and included the following: education=37, family dynamic=9, employment=3, alcohol use=3, drug use=5, refer at 6 months=7, and white=4.

**Results**

Logit Maximum Likelihood Estimation regression was used to regress recidivism at 6 months, 12 months and 18 months on the independent variables. Following are the regression equations:

Pr (REFER6=1) = constant(-4.1867) + 1.1878*Male + (-.4580)white + (-1.0930)druguse +(-1.2099)alcoholuse + 3.7835*drugalcohol + .5420*family + .3969*education + (-.3337)employment + (-.3743)mental health

Pr (REFER12=1) = constant(-3.0208) + .9577*Male + (-.0980)white + 1.1781*druguse + (-.2321)alcoholuse + .2294*family + .1424*education + (-.5636)employment + (-.4021)mental health

Pr (REFER18=1) = constant(-2.6501) + 1.0512*Male + (-.1348)white + 1.1064*druguse +(-.2579)alcoholuse + .08756*family + (-.0444)education + (-.3435)employment + .7189*mental health

In order to have a properly fitted model, missing observations for the variables were deleted from the analysis before regression diagnostics and tests were conducted. A total of 68 missing observations were deleted. Summary statistics of all of the variables can be found in Table 1. Regression statistics for all variables are contained in Table 2.

**Table 1. Summary Statistics for all Variables**

| Variables | Minimum | Maximum | Mean | Standard Deviation |
|---|---|---|---|---|
| Referred, 6 Months | 0 | 1 | .0576 | .2333 |
| Referred, 12 Months | 0 | 1 | .1333 | .3404 |
| Referred, 18 Months | 0 | 1 | .1848 | .3888 |
| Male | 0 | 1 | .8545 | .3531 |
| White | 0 | 1 | .2273 | .4197 |
| Alcohol Use | 0 | 1 | .4515 | .4620 |
| Drug Use | 0 | 1 | .3242 | .3871 |
| Family Dynamic | 0 | 1 | .3439 | .4503 |
| Education | 0 | 1 | .4909 | .5007 |
| Employment | 0 | 1 | .3242 | .4688 |
| Mental Health | 0 | 1 | .0636 | .1883 |
| N=330 | | | | |

**Table 2. Regressions of Recidivism Rates at 6-12-18 Months on all Variables**

| Variable | 6 Months Coefficients (P value) | 12 months Coefficients (P value) | 18 Months Coefficients (P value) |
|---|---|---|---|
| Male | 1.1878 | .9577 | 1.0512 |
| | (.260) | (.130) | (.060) |
| White | -.4580 | -.0980 | -.1348 |
| | (.466) | (.816) | (.715) |
| **Drug Use** | -1.0930 | 1.1781 | 1.1064 |
| | (.407) | **(.007) | **(.005) |
| Alcohol use | -1.2099 | -.2321 | -.2580 |
| | (.208) | (.560) | (.463) |
| **Drug*Alcohol Use** | 3.7835 | N/A | N/A |
| | *(.033) | | |
| Family dynamic | .5420 | .2294 | .0876 |
| | (.332) | (.554) | (.800) |
| Education | .3969 | .1424 | -.0444 |
| | (.441) | (.681) | (.884) |
| Employment | -.3337 | -.5636 | -.3434 |
| | (.558) | (.159) | (.309) |
| Mental Health | -.3743 | -.4021 | .7189 |
| | (.774) | (.663) | (.311) |
| Constant | -4.1867 | -3.0209 | -2.6501 |
| Pseudo R2 | .088 | .053 | .055 |

*$p$<.05 **$p$<.01 ***$p$<.001
n=330

*Note:* Dependent variable: Referred for violating conditions of probation at either 6, 12, or 18 months.

The logistic regression analysis was examined for perfect multicollinearity between the predictors[2]. Of particular concern for multicollinearity were the variables alcohol use and drug use and mental illness with drug and/or alcohol use. Upon

[2] Multicollinearity diagnostics were ran to ensure the variables varied independently enough from one another. The Variance Inflation Factor (VIF) and the Tolerance for each variable indicates multicollinearity does not appear to be a real concern in this model.

examination, the determination was made that the responses for drug use, alcohol use and mental illness varied enough independently so as not to suffer from a multicollinearity problem. None of the variables selected for the analysis appear to have a serious multicollinearity problem (please refer to the Appendix for diagnostic tests).

Additional diagnostic tests included the standardized residuals and Cook's statistics tests[3] for outliers and bivariate partial regression plots[4]. Standardized residuals reveal outliers that may affect the model by causing discrepancy in the results. Numerous observations were found that moved beyond the standard cutoff for the tests for outliers. To determine how influential the outliers were to the regression analysis, these observations were dropped and the regression analysis was conducted again. The exclusion of these observations did not substantially change the results; therefore, the observations were kept in the analysis.

The data were also tested for additivity problems. The final model for the 12 month and 18 month timeframes did not appear to have a problem with non-additivity. However, non-additivity was a problem for the 6-month timeframe for the variables drug use and alcohol use. To correct for this problem, a multiplicative variable was created; combining drug use and alcohol use into one variable. Interaction is a concern with the model because the effect of drug use on recidivism might vary by probationer's alcohol

[3] Plots showing the standardized test for outliers and Cook's statistics tests were examined for all three time periods. To determine if these outliers were influential to the analysis, they were dropped from the dataset and logistic regression was ran again for each period. Since the result revealed there was minimal change, the outliers were considered to not be very influential and were kept in the analysis.

[4] Not included here due to length.

use. To account for this occurrence, the interaction between drug use and alcohol use was added by including the multiplicative variable drug use * alcohol use. This change provided for a better model, and the variable became statistically significant. Additional tests to examine the model's fit for each time period were conducted. To get an estimate of the fit of the model, the scalar measures of fit for two different models for 6, 12, and 18 months were examined. The results provided evidence for strong support for the model to include drug and alcohol use as a combined variable at 6 months and to include drug and alcohol use at the 12-month and 18-month timeframes as individual variables. Next, hypotheses tests of the regression coefficients were examined with Wald tests. Tests show that the effects of alcohol use and drug use on recidivism rates are simultaneously equal to zero can be rejected for 12 months ($p=.026$) and 18 months ($p=.057$). Therefore, drug use and alcohol use do matter, but the effect of alcohol use is not equal to the effect of drug use.

The logistic regression analysis for the 6-month timeframe revealed that the multiplicative variable (drug use and alcohol use combined) is statistically significant at the .05 level ($p =.03$). The results of the analysis for the 12-month and 18-month timeframes reveal that drug use is a significant predictor for reoffending at .007 and .005 ($p < .01$), respectively. These results provide support for the first hypothesis.

These results indicate that recidivism rates are impacted initially as a result of drug use and alcohol use. Drug users, however, continue to experience reoccurring episodes (relapses). This outcome reflects what is known in the literature with respect to the first six months being the greatest concern for reoffending. However, what is

interesting about the results in this analysis are that studies typically exclude alcohol use from their models. The underlying assumption for not including alcohol use as a variable could be that it is generally believed that drug users are alcohol users as well. That explanation may be accurate for some samples (and is clearly an outcome at 6 months here), however, the recidivism rates at 12 months and 18 months demonstrate that alcohol use drops out as being a significant predictor of reoffending risk. This relationship was examined further by tabulating drug use and alcohol use to obtain their frequency distributions. The tabulations indicate that the responses pertaining to drug use were 177 for no prior use; 92 for prior use and 61 for current or chronic use. The responses for alcohol use were 158 for no prior use, 46 for prior use, and 126 for current or chronic use. Clearly, these numbers vary. Only 61 probationers indicate current or chronic drug use; whereas, 126 of the offenders were classified as current or chronic alcohol users. The tabulations for drug use and alcohol use together were also examined. Interestingly, only 30 persons of the total sample of 330 probationers were classified *as current or chronic alcohol and drug users*. These numbers give weight to disagreeing with the broad claim that all drug users are alcohol users.

An evaluation of the predicted probabilities of recidivism based on the independent variables across the study yields interesting results as well. The discrete change in the variables is examined because the models are nonlinear. The results for these tests are shown in Tables 3 and 4. In general, the predicted probabilities are obtained by evaluating the change in the probability of recidivism associated with a specified amount of variation in each variable using the coefficient estimates and having

set of the other variables to their mean (SPOST is used for the computations (see Long and Freese 2006). Since additivity was a problem for the regression model at six months, a multiplicative variable for drug use and alcohol use was created to account for the interaction between the variables. To obtain the predicted probabilities for the interacted variables, a few additional steps are required. The interacted variables cannot simply be "set to their mean" because the values of the multiplicative term depend on the values of the two component variables. Thus, each predicted probability involves setting the values of all three interaction components as is detailed in Table 3. The results of the test indicate that the 95% confidence intervals for the interacted variables achieved statistical significance when alcohol use = 0 and drug use = 1 and vice versa. Regarding the effect of drug use on recidivism rates at 6 months, when drug use = 0 and alcohol use = 0, the recidivism rate is increased at a rate of 5% (.046). However, drug users who are not alcohol users reoffend less at the six month follow up by a rate of 2% (.016). This outcome results in a recidivism reduction of 3% for *drug users* who are not alcohol users. A direct review of the effect of alcohol use on reoffending rates yields a similar situation. The effect of alcohol use on recidivism is such that alcohol users who are not drug users (alcohol = 1; drug use = 0) reoffend at a rate of 1% (.014). It appears that alcohol users are reoffending less than drug users by a decreased rate of 1%. Alcohol users who are also drug users, however, have a substantial increase in recidivism rates. This group has an increase in reoffending by a rate of 18% (.176).

By taking a close look at these estimates, and examining the interaction between alcohol use and drug use, the true probability of recidivism is obtained for substance

abusing offenders. Thus, one can conclude that substance using probationers who get treatment are statistically less likely to recidivate at 6 months. Additionally, alcohol using probationers have an even lower reoffending rate. Non-substance using offenders, on the other hand, have an increased rate of reoffending. Why might this outcome occur? This decrease then must indicate some sense of effectiveness of the program or proper risk classification for both drug users and alcohol users. This outcome has important implications for corrections. Those implications are addressed at the conclusion of this paper.

**Table 3. Changes in Predicted Probability for the Interacted Variables***

| | | | Effect of Var | 95% CI for Change |
|---|---|---|---|---|
| **A. Drug Use** | Drug=0 | Drug=1 | Effect of Drug Use | |
| P(recit) when Alcohol=0 | .0462 | .0160 | -.0302 | -.0841 to .0236 |
| P(recit) when Alcohol=1 | .0143 | .1757 | .1614 | .0151 to .3077 |
| **B. Alcohol Use** | Alco=0 | Alco=1 | Effect of Alco Use | |
| P(recit) when Drug=0 | .0462 | .0143 | -.0320 | -.0761 to .0122 |
| P(recit) when Drug=1 | .0160 | .1757 | .1597 | .0120 to .3073 |

n=330

*Note:* Dependent variable: Referred for violating conditions of probation at 6 months. Interaction variable: drug use and alcohol use set at its mean. All other independent variables were set at their mean.

*All predicted probabilities computed with all other predictors set to their mean values.

**Table 4. Marginal Change in the Values of the Independent Variables**

| Variables | 12 months Min-Max | 18 months Min-Max |
|---|---|---|
| Male | .0778 | .1147 |
| White | -.0100 | -.0184 |
| Drug Use | .1455 | .1756 |
| Alcohol use | -.0240 | -.0358 |
| Family dynamic | .0246 | .0124 |
| Education | .0149 | -.0062 |
| Employment | -.0548 | -.0462 |

| | | |
|---|---|---|
| Mental Health | -.0367 | .1220 |

n=330

*Note:* Dependent variable: Referred for violating conditions of probation at 12 and 18 months.

For the time periods 12 and 18 months, the predicted probabilities yielded the opposite result that a drug user's reoffending becomes an issue at the one year follow up period and then continues to be an issue across the study. Specifically, for 12 months, when varying drug use from its minimum to its maximum (holding the other independent variables in the analysis at the mean), there is an increase in the predicted probability of recidivism by 15% (from .08 to .23) (refer to Table 4). This probability increases further to 18% (from .12 to .30) when recidivism rates are reviewed at 18 months. This outcome reflects the literature and autobiographies by drug users that indicate drug use is a lifetime battle. "Staying clean" is a constant struggle. The other variables of concern in this project, being alcohol use and mental illness, provide interesting results as well. Unlike drug use, the predicted probability of alcohol use *decreases* over time. A review of the variable alcohol use indicates that when varying alcohol use from its minimum to its maximum, a decrease in alcohol use by 2% (from .13 to .11) can be seen at the 12-month timeframe. An additional decrease in alcohol use from 2% to 3% (from .19 to .15) occurs at 18 months. The predicted probabilities of the variable mental illness are worthy of discussion as well because there is a decrease at the mid-point of the study (12 months), but an increase at the end of the study (18 months). The change from not having any known problems to a hospitalization or psychotic episode increases from 3% (at 12 months) to 13% (at 18 months). This change is substantial and is cause for concern

as this result indicates there is a possibility that the risk assessment tool and/or treatment methods provided were not effective.

Regarding hypotheses two and three, no support could be found in the analysis. The results of this study indicate that drug and alcohol abuse are statistically significant predictors of recidivism. At an early follow up period, such as six months, as is in this study, offenders who receive substance abuse treatment reoffend less. The follow up reviews at 12 and 18 months indicate that drug users are more likely to reoffend. Alcohol users' recidivism rates are decreased for all three time periods. These outcomes demonstrate that it is drug abuse that continues to be a problem for offenders. Even though this group of probationers received risk assessments and some type of treatment service based on the need identified by the risk assessment tool, it is important to understand that drugs become a problem over time, and the problem intensifies over the length of the study. One can conclude that overall the treatment did not eliminate the risk of reoffending for certain types of offenders. Early on, the risk is lower for persons who used both drugs and/or alcohol. As time lapses, drug use is the main factor that leads to reoffending rates and the problem continues to increase and compound over time. Thus, the bottom line is although there was a decreased likelihood of recidivism at six months, over time, the drug rehabilitation did not eliminate higher risk of recidivism for drug users. Taking this outcome one step further, leads one to the assumption that offenders who are drug abusers need different and/or longer treatment services to reduce the occurrence. One could possibly infer that initial entry into probation, which most likely involves numerous contacts with the probation officer and persons providing the service

and treatment need, enables offenders to cope with life issues and substance abuse problems. However, once the probation term has moved into a longer stage, such as 12 months and 18 months, the offender may have increased difficulty remaining drug-free. Reasons for this reversion back to illegal substances could include lack of strong social bonds and controls. Temptations to continue or return to drug use also occurs because of the offender's environment and attachment to persons who are also drug users. These examples are prevalent theories for offending behavior.

A return to drug use may also occur because it is likely that contacts with the probation officer may become less frequent. Additionally, contacts with the treatment and/or service persons or facilities may cease or the treatment services may have come to an end. Some programs only offer substance abuse treatment and counseling services for short time periods; typically ranging from 30-60-90 days. Thus, problems with drug addiction may resurface because as with any addiction, it is a lifetime battle to refrain from returning to use. The findings with regard to drug use recidivism rates, within one year, are consistent with the results in the study of prison inmates by Belenko and Peugh (2005). However, Belenko and Peugh exclude alcohol in their projection for treatment needs. These results in this analysis add an additional dimension to the available literature in understanding treatment needs by way of providing the findings that drug use, when controlling for alcohol use, mental health and other socioeconomic and demographic factors, significantly increases a probationer's likelihood of reoffending by the time the placement on probation moves to one year.

## Limitations of Analysis

A limitation of this analysis is that violent offenders are not included. This exclusion could affect the generalizability to populations of violent offenders. Further, the study only includes probationers not parolees. Populations of parolees may differ from probationers because persons who receive a probation sanction do not serve time in prison for that instant offense. Thus, the offenders do not have the added consequence of having suffered the physical and psychological pains of imprisonment. In addition, prisoners who are released may require different treatment and service need than probationers. Comparing the results of an analysis for both groups may be beneficial and provide insight to treatment need. However, the results appear to be valid and reliable because significant results have been found for drug offenders in the criminal justice system, although these tests have included parolees. Additionally, measurement error could be a problem with the collection of the data by the probation officers due to the inaccurate collection and coding. However, since the data were collected by the probation officers themselves, instead of by volunteers, more accuracy and consistency may result.

## Conclusions and Implications

This study adds to the body of literature on recidivism utilizing risk assessments because a majority of the available data includes parolees, violent offenders, sexual offenders or the mentally ill. There are minimal studies with probationers. Literature

calls for developing programs that use scientifically proven methods to reduce reoffending rates. This study is in line with this ideal. All offenders in corrections need to have a rigorous assessment upon initial entrance to the justice system. It is possible, however, that repeat offenders could try and "trick" the assessments if they have become accustomed to the procedures and questions asked. However, if past information is stored about the offender, that information can be reviewed with the newest assessment to try and guard against possible fraudulent information or lying on behalf of the offender. The assessments should be consistent for all institutions. Treatment should not be a secondary consideration to security (Moore and Mears 2007).

Another important aspect of this project includes the inclusion of both drug use and alcohol use. Numerous available studies examining recidivism and drug use typically exclude alcohol use from the analysis all together; noting that drug users also have problems with alcohol abuse. Although this relationship may be accurate, excluding the information could provide misleading results especially if risk assessments and treatment may be designed based on the results. Treatment should be directed toward the actual problem; not an assumption about the problems offenders are facing.

This analysis concludes that substance abusing offenders, who have received risk and needs assessments, are less likely to recidivate at their six month follow up. Drug use is a significant predictor for probationer's reoffending at 12 months and 18 months even after receiving risk assessment and treatment based on need. No other variables in the analysis were significant. One conclusion that can be drawn from these results is the program had worked to prevent recidivism upon initial placement on probation.

However, once an offender moves to a longer time period on probation, recidivism becomes a concern. These results possibly suggest the need for consistent, standard treatment over a longer period of time (more than one year) instead of a shorter timeframe (weeks or months).

---

[1]STUDY NO=3715;

Turner, Susan and Terry Fain. VALIDATION OF THE LOS ANGELES COUNTY [CALIFORNIA] PROBATION DEPARTMENT'S RISK AND NEEDS ASSESSMENT INSTRUMENTS, 1997-1999 [Computer file]. First ICPSR version. Ann Arbor, MI: University of Michigan/Beijing, China: Beijing University [producers], November 2003. Ann Arbor, MI: Inter-university Consortium for Political and Social Science Research [distributor], 2003.

# REFERENCES


Andrews, Don A. and James Bonta. 2003. The Psychology of Criminal Conduct. (3rd ed.). Cincinnati, OH: Andrews Publishing.

Andrews, Don A. and James Bonta. 2006. The Psychology of Criminal Conduct. (4th ed.). Newark, NY: Lexis Nexis Publishing.

Belenko, Steven and Jordon Peugh. 2005. "Estimating Drug Treatment Needs Among State Prison Inmates." *Drug and Alcohol Dependence* 77: 269-81.

Bouffard, Jeffrey A. and Lindsey Bergeron. 2006. "Reentry Works: The Implementation and Effectiveness of a Serious and Violent Offender Reentry Initative." NCJRS. 2/3(44): 1-29. www.ncjrs.gov/app/publications/abstract.aspx?ID=240726.

Brown, Shelley L., Michelle D. St. Amand, and Edward Zamble. 2009. "The Dynamic Prediction of Criminal Recidivism: A Three-Wave Prospective Study." *Law Human Behavior* 33:25-45; DOI 10.1007/s10979-008-9139-7.

Cecil, Dawn K., Daniella A. Drapkin, Doris Layton Mackenzie, and Laura J. Hickman. 2000. "The Effectiveness of Adult Basic Education and Life-Skills Programs in Reducing Recidivism: A Review and Assessment of the Research." *Journal of Correctional Education* 51 (2): 207-26.

Flores, Anthony W., Amanda L. Russell, Edward J. Latessa, and Lawrence F. Travis, III. December, 2005. "Evidence of Professionalism or Quackery: Measuring

Practitioner Awareness of Risk/Need Factors and Effective Treatment Strategies." *Federal Probation*. 69 (2): 9-14

Harris, Patricia M., and Kimberly S. Keller. 2005. "Ex-Offenders Need Not Apply: The Criminal Background Check in Hiring Decisions." *Journal of Contemporary Criminal Justice* 21 (1): 6-30.

Hser, Yih-Ing, Margaret L. Polinsky, Margaret Maglione, and M. Douglas Anglin. 1998. "Matching Clients' Needs with Drug Treatment Services." *Journal of Substance Treatment* 16 (14): 299-305.

Latessa, Edward T., Francis T. Cullen, and Paul Gendreau. 2002. "Beyond Correctional Quackery--Professionalism and the Possibility of Effective Treatment." *Federal Probation* 66, no. 2: 43. *Academic Search Complete*, EBSCO*host* (accessed November 26, 2010).

Long, Scott and Jeremy Freese. 2006. Regression Models for Categorical Dependent Variables Using Stata, (2nd ed.). College Station, Texas: Stata Press.

MacKenzie, Doris Layton. 2000. "Evidence-Based Corrections: Identifying What Works." *Crime & Delinquency* 46 (4): 457.

MacKenzie, Doris Layton. 2001. "Corrections and Sentencing in the 21st Century: Evidence-Based Corrections and Sentencing." *Prison Journal* 81 (3): 299.

MacKenzie, Doris Layton. 2006. What Works in Corrections: Reducing the Criminal Activities of Offenders and Delinquents. New York: NY: Cambridge University Press.

Manchak, Sarah M., Skeem, Jennifer, Lynne, and Douglas, Kevin S. (2008). "Utility of Revised Level of Service Inventory (LSI-R) in Predicting Recidivism After Long-Term Incarceration." *Law and Human Behavior* 32: 477-88. DOI 10.1007/s10979-007-9118-4.

Martinson, Robert. 1974. "What Works? Questions and Answers About Prison Reform." *The Public Interest* 35:22-54.

Meara, Ellen and Richard G. Frank. 2005. "Spending on Substance Abuse Treatment: How Much Is Enough?" *Society for the Study of Addiction* 100: 1240-8; doi:10.1111/j.1360-0443.2005.01227.

Moore, Gretchen E. and Daniel P. Mears. "Voices From the Field: Practitioners Identify Key Issues in Corrections-Based Drug Treatment." January 2003 Research Report. http://www.urban.org/UploadedPDF/410617_NIDA2_IntRpt.pdf.

Petersilia, Joan. 2003. *When Prisoners Come Home*. New York, NY: Oxford University Press.

Siegel, Larry J. 2011. *Essentials of Criminal Justice*. (7th ed.). Belmont, CA: Wadsworth Publishing.

Substance Abuse and Mental Health Services Administration. (2003). *Results from the 2002 National Survey on Drug Use and Health: National Findings* (Office of Applied Studies, NHSDA Series H-22, DHHS Publication No. SMA 03–3836). Rockville, MD. Retrieved: November 10, 2010 from http://oas.samhsa.gov/nhsda/2k2nsduh/Overview/2k2Overview.htm#toc

U.S. Department of Justice, Office of Justice Programs. "Learn About Reentry", downloaded: May 3, 2008. http://www.reentry.gov/learn.html.

Wilson, David B., Catherine A. Gallagher, and Doris L. Mackenzie. 2000. "A Meta-Analysis of Corrections-Based Education, Vocation, and Work Programs for Adult Offenders." *Journal of Research in Crime & Delinquency* 37 (4): 347-68.

Wilson, James A. and Robert C. Davis. 2006. "Good Intentions Meet Hard Realities: An Evaluation of the Project Greenlight Reentry Program." *Criminology & Public Policy* 5(2): 303-38.