

**EFFECTS OF LEGAL SUPERVISION  
ON NARCOTICS USE AND CRIMINAL BEHAVIOR  
OVER THE ADDICTION CAREER\***

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## ABSTRACT

The association between drug abuse and crime is well known. This article explores the response of the criminal justice system to the criminal behavior of narcotic addicts by examining periods before, during and after legal supervision. Legal supervision is defined as probation or parole both with and without urine testing. Data were obtained via self-report interview with 279 heroin addicts admitted to methadone maintenance programs in Los Angeles, San Bernardino, and Orange counties between the years 1971-1973. Results from repeated measures ANOVAS indicate that legal supervision has an immediate effect in reducing daily narcotics use with a moderate but corresponding decrease in criminal behavior. The more chronic addicts tended to rebound after discharge from legal supervision, but additional periods of legal supervision decreased daily narcotics use and criminal behavior.

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## INTRODUCTION

As evidence has affirmed a causal relationship between narcotics use and crime there has been considerable speculation about the effectiveness of various interventions in controlling drug-related crime. Prior research has shown that criminality, and property crime in particular, increases following addiction to heroin and decreases following declines in narcotics use (Biernacki, 1973; Nurco and DuPont, 1977; Stephens and Ellis, 1975; Weissman, 1982; Anglin and Speckart, 1986, 1988; DeFleur, Ball and Snarr, 1969; Ball, Rosen, Flueck, and Nurco, 1981; Ball, Rosen, Friedman, and Nurco 1980; Nurco and Shaffer, 1982; McGlothlin, Anglin and Wilson, 1977; Speckart and Anglin, 1987; Johnson, Goldstein, Preble, Schmeidler, Lipton, Spunt, and Miller, 1985). However, there is inconclusive and insufficient information on the effectiveness of Criminal Justice System interventions alone, or in combination with drug treatment programs in controlling narcotics use and criminal behavior over the relatively lengthy periods associated with addiction careers.

The major treatment modalities, especially methadone maintenance, have generally been shown to be effective in reducing narcotics use and in decreasing criminal behavior by narcotics addicts (Anglin and McGlothlin, 1984; Anglin, McGlothlin, Speckart and Ryan, 1982; McGlothlin and Anglin, 1981a; Sells and Simpson, 1976, 1980; Simpson and Sells, 1982; Collins, Hubbard, Rachal, Cavanaugh, and Craddock, 1982; Craddock, Hubbard, Bray, Cavanaugh, and Rachal, 1982; Hubbard, Cavanaugh, Craddock, Bray, Rachal, Collins and Allison, 1984; Simpson, Joe, Lehman and Sells, 1986; Collins and Allison, 1983; DeLeon Holland and Rosenthal, 1972, DeLeon, Andrews and Wexler, et al., 1979, DeLeon, 1984; Stitzer and McCaul, 1987). Although previous research has documented that intensive legal supervision with urine monitoring

has enduring and demonstrable positive effects in crime suppression and control among addicted narcotics users (McGlothlin, Anglin and Wilson, 1977; Muthen and Speckart, 1983, 1985), these findings need to be replicated. Furthermore, the interruption of addiction "runs" or a periodic relapse into narcotics use, and associated criminal involvement have been documented as an additional effect of probation or parole supervision among methadone patients (Anglin, McGlothlin and Speckart, 1981).

It is necessary to focus on the effectiveness of social interventions designed to control narcotics use and associated crime, not only because such behaviors are illegal, but also for the high social costs of such activities in direct terms. For example, a previous paper in this series (Deschenes, Anglin and Speckart, 1988) showed that social costs during the addiction careers of 279 addicts, arrested in aggregate about 5,000 times, were over \$10 million. The addicts' aggregate reported income from this criminal activity was over \$50 million. Treatment costs for methadone maintenance or therapeutic communities were \$1.3 million for these individuals, whereas costs for incarceration and legal supervision were over \$10 million and \$1.2 million respectively. Given this context, any social intervention must be evaluated for relative costs and benefits in reducing those illegal behaviors accounting for such high costs.

While the evidence is compelling that legal supervision, like methadone maintenance and other drug treatment, reduces daily narcotics use curtailing addiction and thereby reducing criminality, the optimal level of legal supervision and the time course of these effects are largely unknown. How many periods of legal supervision do addicts undergo while addicted? What type of supervision is most effective? How long do the effects of legal supervision persist, both during the periods when they are applied and after

discharge from supervision? Does the effectiveness of legal supervision improve later in the addiction career as cohorts grow older?

The present study examines the immediacy, duration, and persistence of the effects of legal supervision on narcotics use and criminal behavior. It is hypothesized that, in general, legal supervision will reduce both narcotics use and criminal behavior. Second, it is hypothesized that legal supervision will have an immediate effect, but that this effect deteriorates over time. Overall, while some addicts will continue at lower rates of narcotics use, enough others will relapse to daily narcotics use, despite continued supervision, to show reduced efficacy over time. Rebound effects will therefore be expected after discharge from legal supervision. In chronic cases, continued periods of supervision may be necessary for addicts persisting in daily narcotics use or high levels of criminal behavior. Nonetheless, it is hypothesized that additional, successive, periods of legal supervision will have continued effects in decreasing daily narcotics use and criminal behavior.

#### **METHOD**

##### **SAMPLE**

Respondents were 279 male first admissions to Los Angeles, San Bernardino, and Orange County methadone maintenance programs between the years 1971-1973. Deschenes, Anglin, and Speckart (1988) discuss sample characteristics and procedures.

##### **INTERVIEW PROCEDURE**

The retrospective interview procedure used to obtain data is also described in the earlier paper (Deschenes, Anglin, Speckart, 1988).

## THE NARCOTIC ADDICTION CAREER

The retrospective longitudinal interview, in which data are chronologically sequenced from the year prior to initial narcotics use to the time of interview, permits an examination of the relationship between the narcotic addiction and criminal careers, as well as the effects of legal supervision on both. Addiction is defined, for purposes of this study, as daily narcotics use for a consecutive period of 30 days. Termination of addiction occurs at that point when narcotics use occurs less often than daily and does not return to daily use during any subsequent period. Within this framework, the effects of significant events (such as addiction, entry into and discharge from legal supervision, incarceration, and termination of addiction) can be analyzed and evaluated with respect to their influence on the narcotics-crime relationship. The addiction career and its parameters are described in an earlier paper (Deschenes, Anglin and Speckart, 1988) which also gives a conceptual schema for the stages in an addiction career.

## MEASURES

Independent Variables: Legal supervision is defined as any type of supervision imposed by the criminal justice system, including probation, parole or outpatient status (a term for the type of intensive parole supervision provided by the California Civil Addict Program) and abscondence<sup>1</sup> from any of these statuses. Although several types of legal supervision could sequentially occur during a career, different legal supervision periods were considered as one until interrupted by a nonincarcerated period without legal supervision. For example, at an early point during the addiction and criminal

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<sup>1</sup> To conduct an unbiased assessment of overall effects of legal supervision, abscondence was included in the definition of legal supervision, even though it denotes periods during which the legal system failed to maintain the mandated controls over the offender.

careers, an addict may commit a crime. Instead of being incarcerated, the addict may be sentenced to probation with periodic urine testing. Following a period of no supervision after the successful end of a period of probation, the addict may commit another crime in which case he may be incarcerated. Following the incarceration, the addict may be released on parole. If he violates the conditions of parole, he may find himself incarcerated again, following which he may be released on parole. In this situation, the addict would have two periods of legal supervision, the first ended by the no supervision period; the second, although interrupted by incarceration, is not counted as two separate periods of supervision because the addict is supervised during the entire time he is "at risk" or "on the street".

Dependent variables: Many of the same dependent variables used in the previous paper were employed here, including: (1) drug use (percentage of time of abstinent and using narcotics daily, average number of fixes per month), (2) criminal behavior (percentage of time, number of days, and dollar income from committing property crime, percentage of time and dollars income from drug dealing), (3) social functioning (percentage of time employed or on welfare, percentage of time married, and dollar income from employment and welfare), and (4) treatment (percentage of time on methadone maintenance). All dependent variables are measured during non-incarcerated time.

#### **ANALYSES**

Repeated measures analysis of variance (ANOVA) was used to test the effects of legal supervision episodes on the dependent variables. The present analysis examines these questions. First, what is the effect of legal supervision? Second, do any demonstrated effects change over successive periods of legal supervision? The primary analyses examine the time periods before, during and after first, second and third legal supervisions. For all

addicts, the "before" period for the first legal supervision is from the first daily use (FDU) of narcotics to the first legal supervision (LS1). The "during" supervision period is from entry into the first legal supervision until discharge from the first legal supervision (LS1 - LSD1). The first 12 months following discharge from supervision comprise the "after" period (LSD1+12). The time periods of interest for those addicts with at least two episodes are similar and include the "before" period from first daily narcotics use to entry into first legal supervision; the first legal supervision period (LS1-LSD1); the period from discharge from first legal supervision to entry into second legal supervision (LSD1-LS2); the second legal supervision period (LS2-LSD2); and the first 12 months following discharge from second legal supervision (LSD2+12).

A subsequent set of analyses was designed to examine the questions, What are the immediate effects of legal supervision? Is there a deterioration in suppression effects as time passes during the legal supervision period? Do addicts rebound to pre-supervision levels of narcotics use and crime? To determine immediate effects, the 12 months of non-incarcerated time (after addiction) and prior to entry into the first legal supervision (or second, or third) were compared with the 12 months of non-incarcerated time immediately after legal supervision had begun: this measures the immediate impact of legal supervision on the specific behaviors)<sup>2</sup>. These periods are abbreviated LS1-12, LS1 +12, LS2-12, LS2+12, LS3-12, and LS3+12. To test rebound issues, 12 months just before discharge from legal supervision were compared with 12

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<sup>2</sup> Non-incarcerated time, rather than real time, was used in the present set of analyses whereas real time was used in the previous analyses. This was done in order to provide a standard for comparison. In the real time 12 months prior to and following entry or discharge subjects may have been incarcerated for part of the time and thus were not at risk to commit crimes. Inspection of the data revealed that, on average, subjects spent about 8 months non-incarcerated out of the 12 month time period.

months immediately after discharge (to measure the persistence of behavioral changes produced by legal supervision). These periods are abbreviated LSD1-12, LSD1+12, LSD2-12, LSD2+12, LSD3-12, and LSD3+12. Although statistical tests were not performed to measure the deterioration effects, visual comparison of the results from different time periods was used to examine the deterioration hypothesis.

## RESULTS

### BACKGROUND

Background information presented in an earlier paper (Deschenes, Anglin and Speckart, 1988) shows that the majority of Chicano addicts were from poor or working class families, while over 50% of the white addicts were from the middle class. The majority of the addicts had completed 10 or 11 years of school, and were working in semi-skilled or unskilled occupations. The drug and criminal histories of these addicts were extensive. The mean age at first arrest for Chicanos was 14.6 and for whites 15.7, indicating an early record of delinquency. The majority of Chicanos (68%) and a high percentage of whites (36%) were gang members. Both Chicanos and whites reported initial narcotics use at an early age, 18-19 years old. Addiction occurred, on an average, almost two years later, followed by admission into methadone maintenance at age 32 for Chicanos and age 30 for whites.

The background characteristics were compared for three groups of addicts: (1) those with only one legal supervision; (2) those with only two legal supervisions; and (3) those with three or more legal supervisions. Few statistically significant differences were found between the groups. The general narcotic addiction histories, e.g., age at first use, age at first daily use, and age at last daily use, were comparable for the groups. Chicanos with two and three legal supervision episodes were more economically

disadvantaged than those with one or two legal supervisions, respectively. Chicanos with two legal supervisions had fewer years of schooling than those with one legal supervision and their age at first arrest was older. Age at entry into methadone maintenance and age at interview were older for Chicanos with two legal supervisions. Among whites there were no differences regarding schooling or age at first arrest, but age at interview and age at entry into first methadone maintenance were older for those with two legal supervisions than for those with one legal supervision. Comparing the groups with two and three legal supervisions, the only differences were an older age at last daily use and an older age at interview among Chicanos. These age differences between the three groups of addict offenders can probably be explained by the chronic nature of their addiction. Those subjects with two or more periods of legal supervision were probably more chronic addicts who continued drug use for a longer time and needed further supervision to control their behavior. Differences in schooling and socioeconomic status point to the comparatively more disadvantaged backgrounds of the chronic addicts.

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Insert Table 1 about here

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The overall characteristics of the first three periods of legal supervision are presented in Table 1. The data suggest that the majority of these addict offenders were being placed under legal supervision for the first time following an incarceration during the most active years of a criminal career<sup>3</sup>, between ages 23 and 28. Chicanos were more likely to be on parole than probation, whereas the reverse was true for whites; but both groups were

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<sup>3</sup> Statistics indicate the highest incidence of criminal behavior occurs between the ages of 18 and 27, U.S. Dept. of Justice, Bureau of Justice Statistics, *Report to the Nation on Crime and Justice* (Washington, D.C.: 1983).

under supervision with testing for 47% of their non-incarcerated time during first legal supervision. In comparison, addicts with a second legal supervision were tested 61% of the time and were most likely to be in the Civil Addict Program (CAP) outpatient status (OPS). Addicts' prior criminal record and the chronicity of their addiction may account for the higher degree of testing. Characteristics of the third legal supervision period are similar to the second, yet the addicts were more likely to be on probation.

#### FIRST LEGAL SUPERVISION

Although 158 Chicanos and 114 whites had at least one legal supervision period, only 93 Chicanos and 77 whites had sufficient time in all three states (before, during and after legal supervision) to provide suitable data for the repeated measures ANOVA. As can be seen in Table 2, for these individuals, legal supervision had both an immediate and a persistent effect on narcotics use, criminal involvement, and other behaviors. Legal supervision had its most significant effect on narcotics use, decreasing the percentage of time engaged in daily use with a corresponding increase in the percentage of time abstinent from narcotics use. For example, there was a 45% decrease in daily narcotics use for Chicanos and a 38% decrease for whites attributable to legal supervision. However, in the year immediately following discharge from the first legal supervision, there was a slight rebound to higher levels of narcotics use. These possible rebound effects must be considered in light of the increasing participation in methadone maintenance; this consideration is more fully discussed later.

The effect of legal supervision on criminal behavior appears to be more pronounced for Chicanos than whites. The percentage of time engaged in property crime and the number of crime days per month, decrease during legal supervision, but there is a rebound during the first year following discharge.

There is a significant time by race interaction effect for the percentage of time engaged in property crime. For example, there is a 15% decrease in property crime among Chicanos during supervision and no change among whites. Among whites, the percentage of time committing all property crime did not decrease during the first legal supervision, but it did decrease significantly following discharge. Whereas Chicanos rebound to higher levels of drug dealing after discharge from legal supervision, the percentage of time dealing drugs continues to decrease among whites.

Supervision appears to have a stabilizing effect on the social functioning of addicts, as it increased the percentage of time employed for Chicanos and the percentage of time living with a spouse (married or common law). However, there was also a significant increase in percentage of time receiving welfare. Income from employment or welfare was higher during and after legal supervision than before.

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Insert Table 2 about here

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Another factor which may beneficially influence the behavior of narcotics addicts is the percentage of time in methadone treatment. As can be seen in Table 2, there was a significant increase in percentage of time on methadone maintenance both during and after first legal supervision. This effect deserves special consideration since the entry into methadone maintenance treatment often occurs because legal supervision produces a significant number of referrals to drug treatment. The contributory effects of methadone maintenance treatment on behavior relative to those obtained from supervision will, for the purposes of this paper, be ascribed to supervision when it occurs because the separate and sequential effects of legal

supervision and methadone maintenance will become more apparent in later results and will be considered in depth in the discussion.<sup>4</sup>

The analyses comparing 12 months before and after entry into the first legal supervision show effects that parallel those found overall. The results also indicated that the effect of legal supervision on narcotics use for both Chicanos and whites is immediate, rather than accruing with increased time under supervision. As is shown in Table 3, the percentage of time abstinent from narcotics use increased significantly while the percentage of time engaged in daily narcotics use decreased. There were corresponding significant decreases in the percentage of time involved in property crime and drug dealing for Chicanos. A significant time by race interaction effect was found. The differences before and after entry into legal supervision in the percentage of time engaged in crime are significant for Chicanos but not for whites. Employment and the percentage of time living with a common law spouse increased significantly during first legal supervision, implying that supervision provided a stabilizing effect.

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Insert Table 3 about here

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The results of repeated measures ANOVAS measuring the differences between the 12 months prior to discharge from first legal supervision and the 12 months after discharge are quite different from the first set of analyses. As can be seen in Table 4 there are very few significant differences in the dependent variables between these two time periods but there are some significant race effects. Among Chicanos there was a slight, but nonsignificant, rebound in the percentage of time engaged in daily use, but

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<sup>4</sup> Furthermore, a separate set of analyses has been planned to disentangle the effect of legal supervision and methadone maintenance.

among whites there was a nonsignificant decrease. Similarly, the percentage of time committing crime and drug dealing, the number of crime days per year and the dollar income from crime have non-significant increases among Chicanos (except for robbery and dealing, which are significant) but have slight and non-significant decreases among whites.

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Insert Table 4 about here

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There are very few significant changes before and after discharge from first legal supervision in other behavioral aspects. Generally, addicts remained employed an average of 50% of the time and were on welfare a small percentage of the time. Nonetheless, Chicanos and whites were on welfare a greater percentage of time following discharge from legal supervision, a significant difference from the 12 months prior to discharge. Chicanos spent less percent time in methadone maintenance while whites spent over 30% of the time in methadone maintenance. A visual comparison of the time spent in treatment before and after entry (Table 3) to the time spent in treatment before and after discharge (Table 4) shows the amount of treatment to be negligible in the former two periods, but that the greater amount of treatment in the latter two periods may contribute to ameliorating the rebound effect in the latter period.

#### **SECOND LEGAL SUPERVISION**

For thirty-six Chicanos and thirty-one whites, a second legal supervision episode occurred after a period without supervision. Since the sample size is dramatically reduced, the results of this section are much more speculative than those generated for the first period of legal supervision. As can be seen in Table 5, the patterns before, during, and after the post

first legal supervision and during second legal supervision are similar to those found for the earlier analyses of the first legal supervision alone. There are, however, several differences, particularly in the periods after legal supervision discharge.

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Insert Table 5 about here

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Narcotics use among these individuals with a second legal supervision period was more chronic, because although there was a 25 to 30% decrease in daily use at first legal supervision, rebound occurred after discharge, with narcotic use increasing 15 to 20%. However, the second legal supervision effectively decreased the percentage of time in daily narcotics use to 36% among Chicanos and 40% among whites. There was no rebound effect in the year following the second legal supervision for either Chicanos or whites. The pattern with regard to the percentage of time abstinent complements that seen for daily use, an increase during the first legal supervision, decrease between the first and second legal supervision, and increase during and after the second legal supervision.

The effect of the first and second legal supervisions on criminal behavior differs for this subsample of Chicanos and whites. Among Chicanos there was the expected pattern of decrease during the first legal supervision, but criminal involvement rebounded to an even higher level after the first legal supervision before decreasing during and following the second legal supervision. Among whites, however, there was an increase in criminal behavior during the first legal supervision, a slight decrease between the two legal supervision episodes, and a significant decrease during and following the second legal supervision. This different pattern among whites during the first legal supervision may correspond to an increase in criminality with age

which then reverses after about age 30 when there is usually a decrease in crime.

The changes in the percentage of time on methadone maintenance are, perhaps, most striking for those with a second legal supervision. As shown in Table 5, for the periods before, during, and after the first legal supervision, methadone maintenance was a negligible factor, and the concomitant improvement in addict behaviors can be attributed solely to the effects of legal supervision<sup>5</sup>. However, by the second legal supervision, Chicanos were on methadone maintenance 27% of the time and whites were on it 20% time. Following discharge both groups were on methadone maintenance 33% of the time. This participation, as discussed previously, may significantly ameliorate the effects of removing legal supervision for this sample.

The advent of a second legal supervision for these chronic addicts was apparently accompanied by legal supervision efforts to coerce them into treatment to effect a more permanent solution to their persisting narcotics use. The continuation of these addicts in methadone maintenance subsequent to their discharge from second legal supervision, as was also true for discharge from the first legal supervision, contributed to a minimization of rebound.

As shown in Table 6, the changes before and after entry into the second legal supervision are similar to those associated with entry into the first legal supervision but show an even greater reduction in narcotics use and criminal behavior. For example, among Chicanos the percentage of time abstinent from narcotics use decreased to 8% in the 12 months prior to second legal supervision, but increased to 19% during the 12 months after entry into a second legal supervision. The percentage of time spent in daily narcotics

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<sup>5</sup> This is confirmed by the fact that the date of entry into first legal supervision occurs before entrance into the Civil Addict Program or to methadone maintenance.

use was decreased significantly among both Chicanos and whites, more so than during the first legal supervision period. The percentage of time committing crime and the number of crime days per month decreased significantly among both Chicanos and whites. Some of the effects may be related to the increasing percent of time spent in methadone maintenance, but the levels of the percentage of time in methadone maintenance were still lower for the before and after periods than for the entire second legal supervision period overall. Although the second legal supervision again reduced the percentage of time dealing drugs for both Chicanos and whites, there was a greater reduction among whites at the second legal supervision (down to 28%) than at the first legal supervision (41%).

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Insert Table 6 about here

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The periods before and after the second legal supervision discharge exhibited no significant time differences in comparison to the before and after discharge periods around the first legal supervision with the one exception of the percentage of time in methadone maintenance among whites (see Table 7). The relatively high percentage of time involved in methadone maintenance, especially with the increase among whites, may mitigate against rebound effects.

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Insert Table 7 about here

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### **THIRD LEGAL SUPERVISION**

The sample sizes of subjects with a third legal supervision were too small (11 for Chicanos and 4 for whites), for formal statistical analyses and should be considered suggestions only. Repeated measures ANOVAS reveal

patterns similar to those found for the second legal supervision. Those chronic addicts who received a third supervision episode reduce their percentage of time of in daily narcotics use and decreased their criminal behavior during first and second legal supervision periods, but rebounded following each discharge. However, during and after the third legal supervision, the percentage of time abstinent from narcotics use increased to 50% and the percentage of time spent in daily narcotics use decreased to 14% for Chicanos and to 25% for whites. The percentage of time committing property crime was reduced dramatically among Chicanos, from 41% to 5%, as was drug dealing, from 82% to 30%. It must be remembered, however, that these men were approximately 38-40 years old and that the phenomenon of maturing out of addiction might have been progressing (Anglin, Brecht, Woodward, and Bonett, 1986; Brecht et al., 1987). It is also important to note that, in addition to supervision, the percentage of time in methadone maintenance treatment increased greatly, to 45%, during third legal supervision and 56% post discharge for Chicanos, and to 22% during supervision and 25% post discharge for whites. This is the highest level of the percentage of time in methadone maintenance for any period of legal supervision. Because legal supervision had been less effective in previous episodes for this group, it may be that for this group of chronic addicts legal supervision has most influence by finally bringing these addicts into treatment. The third legal supervision period continues to improve addicts' behavior for the decreasing number who continue chronic use.

#### DISCUSSION

The analyses comparing periods before, during and after first and second legal supervision show patterns of increasing and decreasing daily narcotics use and criminal behavior which correspond to periods on and off legal

supervision: there is a rebound effect after discharge. However, the results also suggest that those individuals who continue chronic use and thus need a second or third period of legal supervision are contributing to the majority of the rebound effect. When the successive periods of legal supervision are examined, it is clear that legal supervision has a cumulatively increasing effect or may interact with increasing time in treatment singly or in combination with age as part of a maturing out process to produce decreasing narcotics use and crime. Overall, these analyses confirm that legal supervision has both an immediate and persistent effect in reducing narcotics use and criminal behavior among narcotic addict offenders.

Results from the before and after discharge from the first legal supervision period analyses confirm that, during the 12 months after discharge there is some rebound to a higher level of narcotics use and criminal behavior. However, examining the results from the second and third legal supervision periods suggests that there is very little change from 12 months before discharge to 12 months after discharge.

Despite an expectation that legal supervision effects would deteriorate over time under supervision, there are few differences from 12 months after entry into supervision to 12 months before discharge. A visual, not statistical, comparison of Tables 3 and 4 suggests that improvements seen during the first 12 months of legal supervision persist throughout the period, although some of this sustained effect must be attributed to increasing participation in methadone maintenance. These findings also appear to be true in comparing Tables 6 and 7 as well.

There were some significant ethnic differences which suggest that Chicanos and whites react differently to legal supervision. For example, in comparing periods before, during and after legal supervision, even though the

percentage of time spent in daily narcotics use decreased among both Chicanos and whites, the related percentage of time committing property crime decreased at first legal supervision among Chicanos, but increased among whites. At second legal supervision, however, the percentage of time spent in narcotics use and property crime both decreased among both races. One reason for the lack of response to legal supervision among whites may be their age at first legal supervision. It is also possible, however, that white addicts are more sociopathic and recalcitrant (Weisman, Anglin and Fisher, 1987).

In summary, legal supervision in and of itself appears to be effective in reducing both the percentage of time engaging in daily narcotics use and criminal behavior throughout the addiction career. To a lesser extent, improvement occurs in employment and social stability. The addition of methadone maintenance treatment in later portions of the addiction career, although not tested statistically, may contribute to sustaining these effects.

#### **POLICY IMPLICATIONS**

The present study has examined the effects of periods of legal supervision throughout the addiction and criminal career. As hypothesized, the immediate effects of any type of legal supervision (probation or parole) are to generally reduce the percentage of time in daily narcotics use, increase the percentage of time abstinent, and decrease the percentage of time committing crime, number of crime days per month, and the dollar income from crime. These gains are continuous throughout the legal supervision episode since LS+12 and LSD-12 show the same levels of improvement. Contrary to our hypothesis, the data indicate that these effects do not deteriorate substantially after discharge, except for successively smaller groups of addict offenders. While the analyses comparing periods before, during, and after legal supervision do support the hypothesized rebound effect, there is

little difference in the percentage of time in daily narcotics use and the percentage of time in crime for the year preceding and following discharge from the first legal supervision. However, maintaining improvements may be related to the increase in the percentage of time in methadone maintenance treatment and the percentage of time employed. One explanation for the low rebound effect is based on the different subsamples selected for the analyses. Subjects excluded from the second and third legal supervision analyses who benefitted most from the legal supervision episode may have been the less chronic addicts and criminals. Although there is some rebound following discharge from first legal supervision, this change is minimal in comparison to the effect following entry into supervision. Furthermore, the duration of the first legal supervision (approximately five years) is sufficiently lengthy for behavioral change to become firmly entrenched for many (Anglin, 1988).

The successive and cumulative effects of second and third episodes of legal supervision are also documented. For those persons having a second legal supervision in the period following discharge from first legal supervision and before entry into second legal supervision there is a definite rebound to higher levels of daily narcotics use and criminal behavior. Nonetheless, the effect of a repeated episode of legal supervision is to decrease the percentage of time in daily narcotics use and criminal behavior to levels lower than those during first legal supervision. The same pattern is true for the third period of legal supervision.

An important factor which may contribute to maintaining the effects of legal supervision is the increase in the percentage of time spent in methadone maintenance treatment later in the addiction career. Further analyses need to assess the additive or interactive effects between legal supervision and methadone maintenance treatment. However, because legal supervision itself

motivates entry into methadone maintenance for many addicts (Anglin, Maddahian, and Brecht, forthcoming) it is indirectly responsible for that portion of the behavioral changes associated with methadone maintenance. Overall, this study has confirmed the results from prior research which showed that legal supervision decreases narcotics use and criminal behavior. Furthermore, the effects have been quantified for a variety of behavioral assessments.

These results have several implications for drug abuse policy. First, they provide evidence that legal supervision is effective in decreasing daily narcotics use and criminal behavior. Second, the effects of legal supervision do not deteriorate over time during supervision episodes and minimal rebound occurs except among those addicts who are chronic and need continued periods of legal supervision. Therefore, policy efforts should be made to effectively use lengthy periods of legal supervision, especially legal supervision with testing, in conjunction with drug treatment, such as methadone maintenance and therapeutic communities, to deter narcotic addicts from continued narcotics use and criminal behavior.

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Table 1. Characteristics of Legal Supervision Periods

	Legal Supervision Number					
	First		Second		Third	
	Chicano	White	Chicano	White	Chicano	White
N	158	114	93	60	29	21
Mean age at entry	23.1	23.0	29.7	28.3	35.8	33.5
Mean age at discharge	28.1	28.1	34.5	33.4	39.8	37.5
Average months duration	60.5	61.8	57.7	60.8	47.7	48.9
% preceded by incarceration	69.0	70.0	81.7	80.0	72.4	52.4
Duration of incarceration (mos.)	14.7	10.5	15.7	13.9	11.9	11.5
<u>Type of Legal Supervision %</u>						
Probation	24.7	41.2	28.0	31.7	37.9	52.4
Parole	31.7	23.6	18.3	13.3	6.9	14.3
Outpatient Status (OPS)	20.9	18.4	34.4	35.0	31.0	23.8
Abscond	18.9	14.9	18.3	20.0	24.1	9.5
<u>Testing %</u>						
Abscond	19.0	14.9	18.3	20.0	24.1	9.5
No	42.4	45.6	20.4	18.3	10.3	28.6
Yes	38.6	39.5	61.3	61.7	65.5	61.9
<u>Mean Percent Time</u>						
Incarcerated	21.6	23.1	20.4	26.1	15.7	17.0
Parole	12.6	9.7	17.6	12.9	14.1	10.1
Probation	22.6	34.6	29.7	28.5	31.5	41.6
Any supervision with testing	47.4	47.4	63.4	65.7	63.0	62.8
OPS	26.3	24.4	33.5	35.2	28.5	27.1
Abscondence	17.2	15.1	17.8	22.8	25.8	21.2

Table 2. Effects of First Legal Supervision on Selected Crime and Adjustment Variables

	CHICANO (N=93)			WHITE (N=77)			F-tests
	<u>FDU-LS1</u>	<u>LS1-LSD1</u>	<u>LSD1+12</u>	<u>FDU-LS1</u>	<u>LS1-LSD1</u>	<u>LSD1+12</u>	
<u>Percent Time Narcotic Use<sup>#</sup></u>							
Abstinent	3.8	26.5	18.9	5.5	27.0	32.4	T***,RT
Daily	89.3	45.6	50.8	86.3	48.2	43.1	T***
Number of Fixes	86.1	46.3	51.0	75.5	47.8	44.9	T***
<u>Percent Time Crime<sup>#</sup></u>							
All Property Crime	44.6	29.5	33.7	38.0	37.7	25.7	T*,RT
Robbery	2.8	0.5	1.6	5.1	4.7	2.7	
Burglary	22.8	16.0	16.8	20.4	21.6	15.7	
Theft	33.5	21.7	24.1	19.7	16.4	10.1	R*,T*
Drug Dealing	62.7	35.1	42.1	53.5	35.6	30.0	T***
<u>Number of Crime Days<sup>#</sup></u>							
All Property Crime	9.2	6.0	7.2	7.9	7.5	6.1	T
Robbery	0.2	0.0	0.2	0.4	0.2	0.2	
Burglary	3.5	1.6	2.1	2.6	2.9	3.0	
Theft	5.9	4.1	5.0	4.6	3.8	2.7	
<u>Crime Dollars<sup>#</sup></u>							
All Property Crime	524	406	443	613	815	682	R
Robbery	12	3	18	97	48	47	R
Burglary	285	137	139	271	484	326	R
Theft	211	215	224	163	191	268	
Drug Dealing	61	30	96	136	47	41	
<u>Percent Time<sup>#</sup></u>							
Employed	39.8	55.7	57.9	39.8	46.2	48.9	T***
Receiving Welfare	1.6	4.3	5.8	1.7	3.7	10.6	T**
Methadone Maintenance	0.4	16.3	27.3	2.0	21.8	27.8	T***
Married	34.1	40.8	47.9	22.7	26.7	29.2	R*,T*
Common Law spouse	11.7	26.4	27.0	13.9	31.2	29.4	T***
<u>Income</u>							
Employment <sup>##</sup>	41	74	94	50	67	82	T***
Welfare <sup>#</sup>	3	13	18	6	11	32	T**

# per month

FDU - first daily use

R - race effect, sig. at  $p \leq .05$

\* =  $\leq .01$

## per week

LS1 - entry into first legal supervision

T - time effect, sig. at  $p \leq .05$

\*\* =  $\leq .001$

LSD1 - discharge from first legal supervision

RT

\*\*\*

Table 3. Immediate Effects of First Legal Supervision on Selected Crime and Adjustment Variables

	CHICANO (N=108)		WHITE (N=88)		F-tests
	LS1-12	LS1+12	LS1-12	LS1+12	
<u>Percent Time Narcotic Use<sup>#</sup></u>					
Percent Time Abstinent	6.9	19.0	9.5	16.9	T***
Percent Time Daily	81.5	54.8	76.0	61.3	T***
Number of fixes	83.8	55.0	70.8	58.5	
<u>Percent Time<sup>#</sup></u>					
All Property Crime	47.0	35.3	39.6	43.3	RT*
Robbery	3.8	0.7	4.9	5.0	
Burglary	25.7	21.2	22.5	27.4	
Theft	33.2	25.1	21.6	18.6	T
Drug Dealing	62.8	44.2	51.5	41.2	T***
<u>Number of Crime Days<sup>#</sup></u>					
All Property Crime	9.6	7.1	7.9	9.1	RT*
Robbery	0.3	0.0	0.4	0.3	
Burglary	3.5	2.3	2.8	3.4	RT
Theft	6.0	4.7	4.4	4.6	
<u>Crime Dollars<sup>#</sup></u>					
All Property Crime	559	432	715	992	R
Robbery	16	3	134	81	
Burglary	292	193	294	471	
Theft	226	216	190	244	
Drug Dealing	77	92	110	52	
<u>Percent time<sup>#</sup></u>					
Employed	34.3	48.6	36.6	42.6	T**
Receiving Welfare	2.3	2.9	1.5	2.4	
On Methadone Maintenance	2.5	2.9	2.9	4.8	
Married	33.8	37.7	26.5	22.3	R
Common Law Spouse	15.6	21.4	13.9	33.5	T***
<u>Income</u>					
Employment <sup>##</sup>	37	60	50	59	T**
Welfare <sup>#</sup>	5	8	6	5	

# per month  
## per week  
LS1 = entry into first legal supervision

\* =  $\leq .01$   
\*\* =  $\leq .001$   
\*\*\* =  $\leq .0001$   
R = race effect, sig. at  $p \leq .05$   
T = time effect, sig. at  $p \leq .05$   
RT = time by race effect, sig. at  $p \leq .05$

Table 4. Immediate Effects of Discharge from First Legal Supervision on Selected Crime and Adjustment Variables

	CHICANO (N=121)		WHITE (N=89)		F-tests
	LSD1-12	LSD1+12	LSD1-12	LSD1+12	
<u>Percent Time Narcotic Use<sup>#</sup></u>					
Percent time Abstinent	22.9	20.3	33.9	34.3	R*
Percent time Daily	49.4	54.4	38.3	33.3	R*
Number of fixes	49.1	52.6	40.4	37.5	
<u>Percent Time Crime<sup>#</sup></u>					
All Property Crime	30.3	33.7	32.6	26.1	
Robbery	0.1	3.1	3.8	2.0	RT
Burglary	14.1	16.6	17.9	15.6	
Theft	23.2	25.3	16.1	11.9	
Drug Dealing	36.2	43.6	27.8	21.8	R*,RT*
<u>Number of Crime Days<sup>#</sup></u>					
All Property Crime	6.5	7.4	6.4	5.5	
Robbery	0.0	0.3	0.2	0.1	
Burglary	1.7	2.3	2.8	2.7	
Theft	5.1	4.7	3.4	2.9	
<u>Crime Dollars<sup>#</sup></u>					
All Property Crime	456	498	790	631	
Robbery	2	30	64	23	RT
Burglary	162	162	459	321	R
Theft	260	253	239	248	
Drug Dealing	35	28	25	37	
<u>Percent time<sup>#</sup></u>					
Employed	56.5	52.4	50.1	52.5	
Receiving Welfare	5.2	7.9	4.4	9.9	T*
On Methadone Maintenance	22.1	26.0	32.1	34.1	
Married	44.1	46.7	29.8	31.6	R
Common Law Spouse	27.6	28.7	31.5	30.2	
<u>Income</u>					
Employment <sup>##</sup>	75	82	85	93	
Welfare <sup>#</sup>	13	22	15	29	T

# per month  
## per week

LSD1 = discharge from first legal supervision

\* =  $\leq .01$   
\*\* =  $\leq .001$   
\*\*\* =  $\leq .0001$

R = race effect, sig. at  $p \leq .05$   
T = time effect, sig. at  $p \leq .05$   
RT = time by race effect, sig. at  $p \leq .05$

Table 5. Effects of First and Second Legal Supervision on Selected Crime and Adjustment variables

	CHICANO (N=36)					WHITE (N=31)					F-tests
	<u>FDU-LS1</u>	<u>LS1-LSD1</u>	<u>LSD1-LS2</u>	<u>LS2-LSD2</u>	<u>LSD2+12</u>	<u>FDU-LS1</u>	<u>LS1-LSD1</u>	<u>LSD1-LS2</u>	<u>LS2-LSD2</u>	<u>LSD2+12</u>	
<u>Percent Time Narcotic Use</u> <sup>#</sup>											
Abstinent	4.3	25.1	10.6	25.8	29.3	5.9	19.3	10.6	35.6	45.6	T***
Daily	90.2	58.6	77.6	36.0	38.0	78.7	55.2	71.0	40.3	30.1	T***
Number of Fixes	72.6	51.1	75.2	34.4	41.9	68.7	57.8	69.4	42.6	30.9	T***
<u>Percent Time Crime</u> <sup>#</sup>											
All Property	40.1	35.9	45.7	26.5	21.7	32.7	45.4	41.3	25.4	25.7	T**
Robbery	1.5	0.0	0.0	0.2	0.0	3.3	8.3	1.6	0.2	0.3	
Burglary	25.8	20.0	23.0	9.5	11.1	22.6	28.4	28.0	17.8	14.7	
Theft	27.8	27.2	26.8	19.1	13.6	11.7	15.1	12.3	7.0	9.0	
Drug Dealing	53.2	33.4	62.8	50.8	52.4	38.0	32.9	45.6	27.5	22.1	R,T*
<u>Number of Crime Days</u> <sup>#</sup>											
All Property	7.6	7.7	9.7	5.2	5.0	6.7	9.0	8.6	5.2	6.1	T
Robbery	0.0	0.0	0.0	0.0	0.0	0.1	0.5	0.1	0.0	0.0	
Burglary	3.2	2.3	3.4	1.6	1.7	3.0	3.8	4.4	3.3	3.0	
Theft	4.7	4.9	5.6	3.5	3.2	3.1	3.4	3.3	1.4	2.5	
<u>Crime Dollars</u> <sup>#</sup>											
All Property	367	456	664	381	373	455	1047	941	751	986	
Robbery	2	0	0	32	0	10	91	30	1	1	
Burglary	182	174	262	164	215	271	696	426	491	795	
Theft	161	207	265	149	157	124	139	237	111	104	
Drug Dealing	36	27	221	38	33	46	43	30	46	5	
<u>Percent Time</u> <sup>#</sup>											
Employed	44.3	48.4	42.0	48.0	48.0	54.2	53.8	43.0	58.8	66.5	
Receiving Welfare	0.0	1.6	3.2	8.4	11.5	1.0	0.3	6.7	2.7	6.0	T**
Methadone Maint.	0.0	0.0	3.2	26.5	33.1	1.0	2.2	7.3	19.8	33.2	T***
Married	25.5	36.9	43.8	36.0	35.0	22.8	21.7	20.9	22.7	27.1	
Common Law spouse	11.6	27.5	28.6	36.4	39.0	7.8	22.0	28.2	43.6	50.5	T***
<u>Income</u> <sup>##</sup>											
Employment	41	58	54	70	77	63	70	63	102	125	T***
Welfare	0	4	8	23	35	4	1	19	7	16	T*

# per month

## per week

FDU = first daily use

LS1 = entry into first legal supervision

LSD1 = discharge from first legal supervision

R = race effect, sig. at  $p < .05$

T = time effect, sig. at  $p < .05$

RT = time by race effect, sig. at  $p < .05$

\* =  $< .01$

\*\* =  $< .001$

\*\*\* =  $< .0001$

Table 6. Immediate Effects on Second Legal Supervision on Selected Crime and Adjustment Variables

	CHICANO (N=93)		WHITE (N=60)		F-tests
	LS2-12	LS2+12	LS2-12	LS2+12)	
<u>Percent Time Narcotic Use<sup>‡</sup></u>					
Abstinent	7.8	19.3	10.1	26.3	T***
Daily	77.3	50.4	69.7	42.4	T**
Number of fixes	83.8	46.9	76.2	46.6	T***
<u>Percent Time Crime<sup>‡</sup></u>					
All Property Crime	47.9	34.9	47.7	34.2	T**
Robbery	4.0	2.3	1.7	2.1	
Burglary	28.3	22.0	24.9	20.7	
Theft	29.6	24.7	21.6	12.4	T*
Drug Dealing	60.2	46.6	41.3	28.2	R**T***
<u>Number of Crime Days<sup>‡</sup></u>					
All Property Crime	10.8	6.8	9.5	6.6	T***
Robbery	0.3	0.1	0.1	0.1	
Burglary	4.3	3.1	3.7	3.6	
Theft	6.0	3.8	5.1	2.5	T**
<u>Crime Dollars<sup>‡</sup></u>					
All Property Crime	965	472	1309	851	T
Robbery	28	7	35	8	
Burglary	414	242	425	479	
Theft	348	181	451	157	T*
Drug Dealing	105	73	31	39	
<u>Percent time<sup>‡</sup></u>					
Employed	36.1	39.9	39.3	49.5	T
Receiving Welfare	6.8	9.1	5.7	6.7	
On Methadone Maintenance	7.9	12.9	9.6	12.9	
Married	43.3	34.4	22.8	23.7	R
Common Law Spouse	28.8	33.6	25.8	37.3	T*
<u>Income</u>					
Employment <sup>##</sup>	47	57	55	77	T*
Welfare <sup>‡</sup>	16	23	17	19	

<sup>‡</sup> per month  
<sup>##</sup> per week

LS2 = entry into second legal supervision

\* =  $\leq .01$   
 \*\* =  $\leq .001$   
 \*\*\* =  $\leq .0001$

R = race effect, sig. at  $p \leq .05$   
 T = time effect, sig. at  $p \leq .05$   
 RT = time by race effect, sig. at  $p \leq .05$

Table 7. 12 Months Pre-Post Discharge from Second Legal Supervision By Race

	<u>CHICANO (N=64)</u>		<u>WHITE (N=37)</u>		<u>F-tests</u>
	<u>LSD2-12</u>	<u>LSD2+12(F)</u>	<u>LSD2-12</u>	<u>LSD2+12</u>	
<u>Percent Time Narcotic Use<sup>#</sup></u>					
Abstinent	27.0	26.7	46.9	41.6	R
Daily	38.1	40.3	26.8	29.5	
Number of fixes	39.2	43.1	25.6	29.9	
<u>Percent Time Crime<sup>#</sup></u>					
All Property Crime	24.4	20.6	18.8	21.9	
Robbery	2.6	3.8	0.5	0.4	
Burglary	10.4	11.0	8.3	8.6	
Theft	19.2	12.9	11.7	8.5	
Drug Dealing	49.7	47.9	18.3	24.1	R
<u>Number of Crime Days<sup>#</sup></u>					
All Property Crime	5.1	3.9	3.7	4.8	
Robbery	0.3	0.3	0.0	0.0	
Burglary	1.8	1.6	1.3	1.7	
Theft	3.2	2.3	1.8	1.7	
<u>Crime Dollars<sup>#</sup></u>					
All Property Crime	394	542	473	900	
Robbery	37	89	2	1	
Burglary	154	305	190	485	
Theft	201	141	134	69	
Drug Dealing	57	40	32	91	
<u>Percent time<sup>#</sup></u>					
Employed	47.2	49.4	60.3	64.4	
Receiving Welfare	12.3	12.0	6.2	10.1	
On Methadone Maintenance	40.1	37.4	29.7	40.3	
Married	41.6	37.8	35.1	35.6	
Common Law Spouse	40.4	37.4	38.7	34.3	
<u>Income</u>					
Employment <sup>##</sup>	64	71	109	129	R**
Welfare <sup>#</sup>	35	36	16	26	

# per month  
## per week

LSD2 = discharge from second legal supervision

\* =  $\leq .01$   
\*\* =  $\leq .001$   
\*\*\* =  $\leq .0001$

R = race effect, sig. at  $p \leq .05$   
T = time effect, sig. at  $p \leq .05$   
RT = time by race effect, sig. at  $p \leq .05$