

Preliminary Outcomes from a Texas Manual-Based Group Motivational Intervention Supplement for Court-Stipulated Interlock DUI Offenders

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BACKGROUND

Studies that have evaluated interlock programs have generally found the following: (a) far fewer DUI offenders than are eligible for an interlock program elect to install these devices; (b) even when law requires the courts to order interlock devices as a condition of license reinstatement or probation, often this does not happen; (c) while interlocks are installed, recidivism rates are significantly reduced compared to license suspended DUI offenders; (d) few interlock program periods extend more than 12 months and after the interlock is removed there is only a small carryover effect; post-interlock DUI recidivism rates of former interlock offenders differ little from those who never had an interlock program and are also recently relicensed; and (e) nonetheless, when considering the total period, which combines interlock-on and interlock-off, there is a net lower total recidivism, suggesting interlock programs are effective and should be more widely used. These conclusions match some of those cited by the International Committee on Alcohol Drugs and Traffic Safety Interlock Working Group report (Marques et al., 2001).

The enthusiasm for interlock programs is tempered by disappointment that the effect is transitory: when the program is finished much of the restraining effect is gone as well. Because the efficacy of the programs are so high while the interlocks are installed, (e.g., 22 times more effective than suspension; Voas et al., 1999), the drop off after removal is an active problem that researchers are trying to minimize. Some have interpreted the return to recidivism to suggest that we should require interlock programs to continue for much longer or at least until some evidence is presented that public safety is not endangered by allowing the offender an unrestricted license. Others have wondered if it is possible to utilize the time while offenders are essentially captive of the interlock program to raise their awareness that behavior change is a matter of self-interest that might be successfully conveyed through delivery of intervention services with the goal to bring about an internalized commitment to not drink and drive after the interlock program's external control has been removed.

In Alberta Canada, Marques et al. (2000) reported that first offenders in interlock programs who were part of a minimally structured program of supplemental counseling services did do better even after the interlock was removed. The interlock offenders who had the services supplement while the interlock was installed had 50% lower recidivism rates during the year after the interlock was removed than did another group of interlock users who had no such counseling supplement. The impact of this effect did not extend beyond one year and was not replicated for multiple offenders. Part of the weak impact may have been due to the lack of program structure. Accordingly a new research study was undertaken in which the supplemental services were tightly controlled and delivered in a way that carefully adhered to treatment plan manuals. The latter program, known as SIP (Support for Interlock Planning) is now underway in east central Texas near the large urban area encompassing Dallas and Ft. Worth.

The behavior theory underlying the intervention model for SIP is built around personal change readiness and motivational enhancement theory. The former is usually associated with the research of Prochaska, DiClemente and collaborators (Prochaska & DiClemente, 1984; Prochaska et al., 1992), while the latter is associated with the work of Miller, Rollnick and collaborators (Miller and Rollnick, 1991; Bien, Miller, & Tonigan, 1993; Miller & Sanchez, 1993). A combination of these approaches arises from evidence that personal change proceeds along a somewhat predictable readiness to change sequence. Until one accepts that an effort to change has some self-interested benefit the offender will not accept the challenge to change. When the challenge is accepted it is important to strengthen the commitment to change (Wanberg et al., 2002). Motivational enhancement is a process whereby movement along this change continuum can be facilitated. Rollnick and Miller (1995) defined this type of therapy as a directive, client-centered counseling style for eliciting behavior change by helping clients explore and resolve ambivalence about change. The FRAMES model that underlies motivational enhancement recognizes six key ingredients: (F) feedback to the individuals of their personal risk, the (R) responsibility for change lies with the individual, (A) advice to embrace change is clearly given, a (M) menu of choices that are available to the offender are discussed, (E) empathy is provided by the therapist – this is not a confrontational approach, (S) self-efficacy and hope are key messages that are conveyed. In the largest controlled clinical trial even undertaken to evaluate effectiveness of different therapeutic approaches, Project MATCH determined that of the 3 approaches to behavior change that were assessed, motivational approaches produced the best outcomes for the people most resistant to change (MATCH, 1997). Nochjaski et al., 2000 and Wieczorek et al., 1997 found that motivational approaches are effective with the DUI population, and that the DUI population has a high proportion of “precontemplators,” people who have not thought about personal change.

The primary research question under investigation in the Texas program is whether interlock users exposed to a structured motivationally-centered program can reduce the rates of recidivism after the interlock no longer controls their drinking-driving. Answers to this question will come from two types of intermediate indicators and one long term outcome. The long term outcome evaluation of the intervention will depend upon state DUI records of recidivism rates of clients who experienced the intervention condition. This type of data will take at least 2 years after relicensing to allow for study of comparative DUI recidivism rates. Intermediate indicators derive from two sources: 1) the change in pre-post assessments that surround the supplemental motivational intervention, and 2) the daily record of interlock BAC tests. At this time we can report on demographic characteristics of the offenders and pre to post changes in the assessment instruments.

METHODS

Some portion of local judges in Dallas and Tarrant counties agreed to require participation in SIP in addition to the usual requirement of the ignition interlock device. Five different ignition interlock companies agreed to provide interlock BAC test records for subjects agreeing to participate in the research portion of the study.

Subject Characteristics

All 162 subjects who completed SIP are convicted DUI offenders ordered by a judge to both enter an interlock program and participate in SIP. Their characteristics follow.

- Mean age is 35 +/- 11 (SD)
- 31% are Hispanic/Latino ethnicity
- 36% are general or semi-skilled laborers; 26% are professionals or managers

- 82% are employed full-time
- 24% are females
- 39% have children 18 and younger living at home with them.
- 29% have had other convictions (other than DUI) most of these are misdemeanors
- 79% are Caucasian race, the remainder a mix of Asian, African, American Indian
- 70% have an annual family income of less than \$45,000, 49% under \$30,000.
- 16% filled in the Spanish language version, 84% the English.
- 19% of the sample has had prior outpatient alcohol treatment
- 4% have had prior inpatient alcohol treatment, 26% have been to an AA meeting
- 4% have had prior outpatient mental health care
- 63% received some counseling service from a jail or prison while incarcerated

Design

The motivational intervention has both group and individual components. Four group sessions and monthly individual sessions unfold over six months. Content, based on the “FRAMES” model, is directed toward creating the motivation to find the self-interested reasons to not drink and drive once the controlling aspect of the interlock is removed. The program is structured to require 12 hours of participant time divided into 4 group sessions (8 hours), 6 individual sessions (2 hours), and pre-post evaluation (2 hours). The group sessions are fully specified, the individual sessions are partially specified.

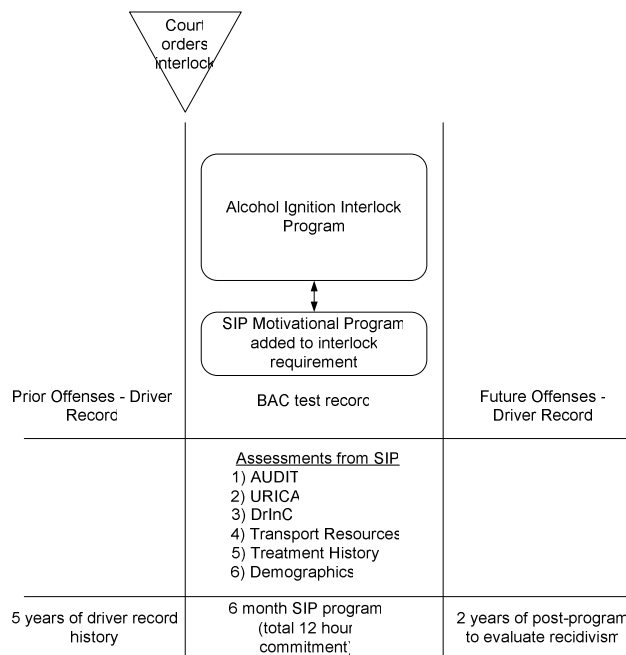


Figure 1: Design of SIP Program

The intervention manuals (Timken and Marques, 2001a, 2001b) are built on motivational intervention concepts directed toward interlock stipulated offenders. It includes the following elements: an English Providers Manual, an English Participants Manual, a Spanish Participants Manual, 85 transparencies keyed to the manuals, self-test evaluation and treatment planning exercise with SOCRATES (Stages of Change and Treatment Eagerness Scale), and a battery of external assessments.

The assessments include: demographics, treatment history and a vehicle use survey. In addition standardized instruments include the 10 item AUDIT (Alcohol Use Disorders

Inventory) developed by the World Health Organization to screen for alcohol-related problems, the DrInC (Inventory of Drinking Consequences), a 50-item questionnaire to measure adverse consequences of alcohol abuse in five areas: Interpersonal, Physical, Social Responsibility, Impulse Control, and Intrapersonal. The scale logs 3 months measures of these adverse consequences. Scales can be combined to yield a total score. The URICA (Univ Rhode Island Change Assessment scale) is used to assess change readiness for treatment planning purposes. Space precludes full validation evidence for these, but they are widely used standard instruments for assessing alcohol problems. Copies can be found at (<http://www.niaaa.nih.gov/publications/instable.htm>), at NIAAA.

The design plan called for random assignment to active SIP and a less intensive program that would allow for comparative impact. However, to date, the rate of new study subjects has been too low to allow for this. There is currently only pre-post information.

Analyses

The number of cases available at this time is sufficient only for analysis of descriptive differences in outcome measures from the start to the end of the intervention. There is as yet no long term outcome evidence (post-interlock DUI repeat offenses), nor the objective intermediate effect indicator (interlock BAC test patterns). The primary analyses at this time reflect only effect size estimates and significance tests within subjects.

Cohen's d is an expression of effect size difference between two groups based on pooled standard deviation units. This effect size estimate can be positive or negative and greater than one. The alternate effect estimate (r^2 and its variations) expresses effect size as proportion of total variance accounted for, and has a theoretical maximum of 1.0.

RESULTS

Preliminary outcome data from the pre to post instrument pool suggest the intervention is producing a beneficial effect. The evidence cited below reflects the results of 162 people who have completed SIP. Another several hundred are currently in the program but have not yet completed and more will be admitted in the future.

The AUDIT is a screener that performs well with diverse cultures and is not affected by ethnicity. It surveys in the areas of quantity of alcohol consumption, alcohol dependence, and consequences of consumption. The cut point for a problem drinking diagnosis is usually 8 for men and 6 with women.

In the pre-SIP assessment 56% of men scored above 8 on the AUDIT, while at the conclusion of SIP 38% scored above 8. For women, 61% scored above 6 before SIP, with 47% scoring above 6 after SIP. As shown on Figure 2, the overall mean score on AUDIT declined from above the general cut point of 8 for problems to below the cut point. The pre-program mean = 9.01 ± 5.7 , while the post-program mean = 7.40 ± 5.5 ($t=3.5$, $P=.001$). This is a medium effect size ($d=.56$) and a strongly significant statistical change. The questions specifically concerned with alcohol consumption on the AUDIT (items 1-3) declined even more strongly from pre to post with a large effect size difference ($d=.97$). The pre-program mean = 5.7 ± 2.5 , while the post

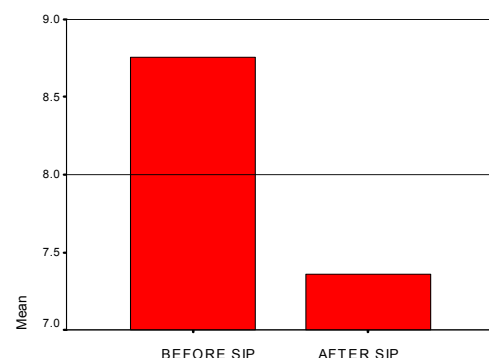


Figure 2: AUDIT Scores Pre and Post SIP

program mean = 4.3 ± 2.7 ($P=.000$). Both the 39 women ($P=.005$) and the 123 men ($P=.000$) changed significantly from pre to post on the consumption items. Latinos ($P=.001$) and non-Latinos ($P=.000$) both changed significantly from pre to post on the consumption items.

The DrInC assesses subjects about consequences of drinking and was given pre and post program too. As shown in Figure 3, SIP participants changed very strongly on each of 5 scales (all $P<.0001$) with a strong overall change ($t=6.6$, $P<.0001$, $df=151$). On each specific scale the effect size magnitude showed that during the 6 month 10 hour intervention the strongest change in any one scale was impulse control ($d=1.2$). Arguably this is an important first step toward gaining control of alcohol. The least strong change on any one of the five key scales was improvement in social relations ($d=.73$) yet this was also substantially changed. The overall consequences change score (the sum of all 5 separate scales) exceeded a full standard deviation ($d=1.08$) and was strongly significant ($P<.0001$). These changes suggest that during the time they were participating, they directly reported experiencing a substantial reduction in adverse consequences from drinking in five key life domains.

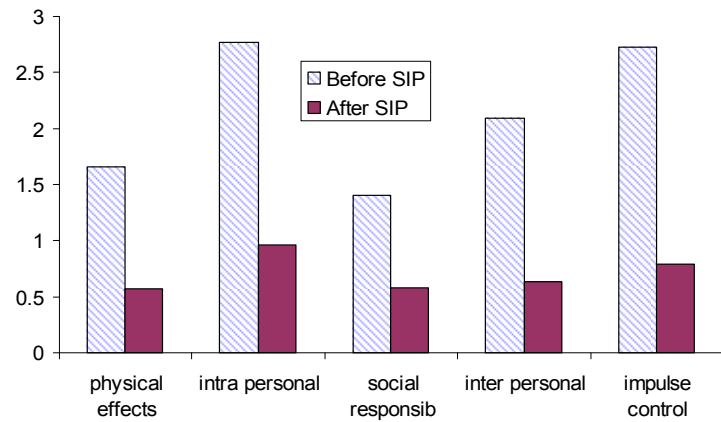


Figure 3: DrInC Pre and Post SIP (all $P<.0001$)

The URICA assesses the extent to which evidence of personal change falls along a continuum. In stage 1 little thought is given to personal change, in stage 2 offenders form the concept that they need to change, in stage 3 they begin to take action, in stage 4 they are holding and maintaining. The pre to post outcome changes are represented in two charts. Each chart represents the average stage for an offender by prior conviction status, and by ethnic status. A similar change is found for gender. There is no evident selection of change just for particular groups, there seems to be a general benefit.

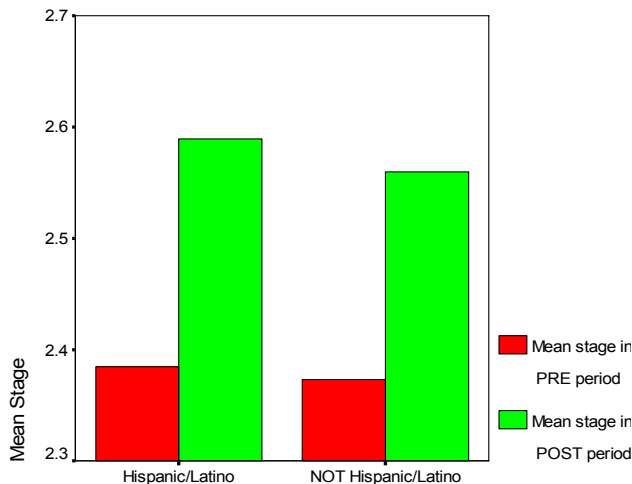


Figure 4: Mean stage change by ethnicity

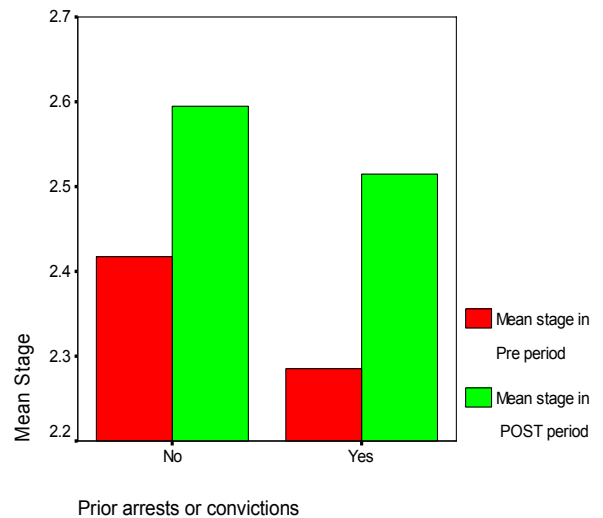


Figure 5: Mean stage change by priors

DISCUSSION

The self-report evidence suggests the intervention is producing a broad-based effect in the direction intended. Self-report is not very satisfying evidence for documenting therapeutic change. However, Kadden & Litt (2004) recently report that consumption measures (such as AUDIT) and consequences measures (such as DrInC) are among those most strongly associated with actual change in drinking, more so than other widely used psychological assessments. Until actual driver record or interlock BAC evidence can corroborate these findings, we tentatively presume that SIP is having the intended effect.

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