Screening for Risk and Needs Using the Impaired Driving Assessment

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16. Abstract

Drunk driving continues to be a serious public health concern and a threat to public safety in the United States. In recent years, greater efforts have been made to enhance assessment practices for those offenders convicted of DWI in order to increase the identification of predicting which offenders are most likely to continue to drive impaired from those who are less likely to engage in this behavior.

Under a cooperative agreement with the National Highway Traffic Safety Administration, the American Probation and Parole Association (APPA) prepared this report on their development of a screening tool, Impaired Driving Assessment (IDA) to identify a DWI offender's risk of engaging in future conduct of impaired driving, and to help determine the most effective community supervision that will reduce such risk.

APPA conducted a literature, analyzed assessment responses of DWI offenders, and interviewed experts in the field of impaired driving research and treatment to provide guidelines in selecting the measurement components of the most appropriate instrument.

APPA identified several major risk areas of DWI recidivism. An individual's past behavior stood out across multiple risk areas, including prior DWI and non-DWI involvement in the justice system and prior involvement with alcohol and other drugs. In addition, resistance to and non-compliance with current and past involvement in the justice system was identified as a major risk area. These identified areas informed the inclusion of certain items in the IDA.

APPA pilot test IDA with DWI probationers in Brown County Adult Probation, Minnesota; Nicollet County Adult Probation, Minnesota; Westchester County Probation Department, New York; and Tarrant County Community Supervision and Corrections Department, Texas.

The development of IDA and the pilot test results are shared in this document.

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This project was fortunate to have the expertise of multiple consultants. Dr. Matthew DeMichele should be commended for the instrumental role he had during the first three years of the project. As project manager, he oversaw the preliminary work conducted to initiate the development of the IDA, which included: conducting research to identify single predictor items to include on the IDA, identifying pilot sites to test the IDA, and brokering consultants to assist with the development of the IDA. Once he left APPA to pursue another career opportunity, he continued to assist on the project with the research and finalization of the IDA tool. Drs. Kenneth Wanberg (Center for Addictions Research and Evaluation) and David Timken (Center for Impaired Driving Research and Evaluation) also served as consultants on the project. Their combined years of experience, knowledge, and overall expertise in the field of impaired driving and substance abuse assessments were invaluable to its success. In particular, they both assisted with the development of the IDA tool and training materials, and both went above and beyond what was expected of them to ensure the quality and benefit of the IDA in practice.

The success of this project also relied on the efforts of certain individuals at the pilot sites. Each of the agencies that participated in the pilot study designated one individual to serve as the on-site project coordinator. They were as follows: Dave Munson, Brown County Probation Department (MN); Curt Henrichs, Nicollet County Probation Department (MN); Leta Youngblood, Tarrant County Community Supervision and Corrections Department (TX); and Ed Varela, Westchester County Probation Department (NY). Each of these individuals oversaw the implementation of the IDA at their respective sites, provided data and supplemental information on DWI cases, and participated in routine conference calls, among other tedious tasks. Cynthia Hipolito, Tarrant County Community Supervision and Corrections Department (TX), also assisted with the data collection of the DWI probationers who were enrolled in the pilot study. Additionally, she volunteered her time to translate the IDA into Spanish so that it would be available to Spanish-speaking subjects at the pilot sites. All of the probation officers who underwent the training and administered the IDA to subjects during the pilot study should also be commended for their efforts, as well as any other staff members at the agencies who provided assistance on the project.

Executive Summary

While the number of alcohol-impaired-driving fatalities has been significantly reduced over the past decade, drunk driving continues to be a serious public health concern and a threat to public safety in the United States. A number of changes in policy and practice related to the enforcement and prosecution of individuals arrested and convicted of a driving while impaired (DWI) offense has contributed to the reductions in such fatalities. Yet, the National Highway Traffic Safety Administration (NHTSA) and others have continued to work to further reduce the number of fatalities and other negative consequences related to impaired driving. In particular, greater efforts have been made in recent years to enhance assessment practices for those offenders convicted of DWI in order to increase the identification of predicting which offenders are most likely to continue to drive impaired from those who are less likely to engage in this behavior. In 2008, NHTSA provided funding to the American Probation and Parole Association (APPA) to develop an instrument that can increase the probability of identifying a DWI offender's risk of engaging in future conduct of impaired driving, and to help determine the most effective community supervision that will reduce such risk. The result of this project was the Impaired Driving Assessment (IDA).

APPA took several steps in the initial development of the IDA. First, a literature review was conducted to discern what instruments were available and what research had been done to define critical variables that can indicate the probability of DWI recidivism. Second, analyses were done on a large sample of DWI offenders from Oklahoma Department of Corrections who were administered two commonly used substance abuse and general risk assessments in the field—the Adult Substance Use Survey and the Level of Service Inventory-Revised. In these analyses, the number of prior DWI offenses was used as the variable to be predicted. Third, both item and scale results of the Adult Substance Use and Driving Survey (ASUDS), a more in-depth differential assessment of the DWI offender in the areas of substance use and abuse, alcohol involvement and other areas of life-adjustment problems, and its revision taken on four large samples of DWI clients from four different jurisdictions were studied with respect to the relationship of select questions in the ASUDS and risk outcome variables. Finally, a number of experts in the field of impaired driving research and treatment were consulted with respect to critical variables and areas of assessment that are most predictive of DWI recidivism. Feedback gained from these experts provided guidelines for selecting the measurement components of the most appropriate instrument.

From these steps, the APPA identified several major risk areas of DWI recidivism. At no surprise, an individual's past behavior stood out across multiple risk areas. This included prior DWI and non-DWI involvement in the justice system and prior involvement with alcohol and other drugs. In addition, resistance to and non-compliance with current and past involvement in the justice system was identified as a major risk area. Mental health and mood adjustment problems were found to be a risk area as well. This supports prior research on DWI recidivism that has established its causal factors to be a combination of alcoholism or addiction and the risky decision-making process of high-risk drivers—individuals who lack appropriate levels of restraint or self-control to resist the impulsivity of driving drunk.

All of these identified areas informed the inclusion of certain items on the development of the IDA. The IDA is comprised of two components—a self-report (SR) and an evaluator report (ER). The SR is comprised of 34 questions designed to measure both retrospective and current perceptions of conditions related to mental health and mood adjustment, alcohol and other drug (AOD) involvement and disruption, social and legal non-conformity, and acknowledgment of problem behaviors and motivation to seek help for these problems. The ER component is comprised of 11 questions that provide information around the individual's past DWI and non-DWI involvement in the judicial system, prior education and treatment episodes, past response to DWI education and/or treatment, and current status with respect to community supervision and assignment to education and/or treatment services. The comparison of the ER with the SR provides an estimate of the individual's level of defensiveness and openness to self-disclose, measures that are also important in the estimation of potential risk for recidivism.

Four adult county probation departments were selected to pilot the IDA with DWI probationers: Brown County Adult Probation, Minnesota; Nicollet County Adult Probation, Minnesota; Westchester County Probation Department, New York; and Tarrant County Community Supervision and Corrections Department, Texas. Supervision officers at each agency underwent training on how to properly administer the IDA to probationers. Officers then implemented the IDA to new cases for a period of six-to-eight months, beginning in August 2011 and concluding in April 2012. After accounting for various reasons for removal from the study, a total of 948 DWI probationers across the four agencies voluntarily participated in the study. The probationers were then tracked for a follow-up period of 12 months from the time they were placed on supervision and administered the IDA.

Binary logistic regression was conducted to examine the statistical effects of the eight IDA scales on whether the probationers were arrested or revoked during the study period, which was referred to as "probation failure" for the purposes of the study. The scales were developed using factor analysis to determine how the various single items loaded together. Logistic regression predicts the probability that a case will be classified into one as opposed to the other of the two categories of the dependent variable.

The results of the regression analyses revealed that all eight scales were found to have statistically significant relationships with probation failure. Highlights include:

- DWI probationers with more extensive legal histories (e.g., numerous arrests as juvenile and adult, incarceration in jail or prison) and more mental health and mood adjustment problems (e.g., depression, chronic unemployment) were more likely to fail probation.
- Probationers who reported higher levels of AOD involvement and who showed more acceptance of the problems caused by their impaired driving, and less defensiveness, were more likely to fail probation.
- Probationers with higher scores on the DWI Risk Supervision Estimate (DRSE) scale were more likely to fail probation. Given this, the DRSE scale may serve as a good example of how the IDA may be used in practice at either the sentencing stage or during supervision.

The practical application of the IDA is to provide guidelines for practitioners to assess risk to reoffend, service-level needs, level of responsiveness to supervision and services, and the degree to which the DWI has jeopardized traffic and public safety among individuals arrested and convicted of DWI offenses. Practitioners undergo proper training in order to administer the IDA to DWI supervisees. A *User's Guide* will accompany the training to provide step-by-step instructions for practitioners to administer the IDA, and then score and interpret its results. The implementation of the IDA is contingent upon further research and refinement of the instrument.

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Introduction

Impaired driving continues to be a serious public health concern and a threat to public safety in the United States. In 2012, the National Highway Traffic Safety Administration (NHTSA, 2013) reported that there were over 10,300 alcohol-impaired-driving fatalities. Despite this increase, there was a significant decrease (by 27%) in the number of such fatalities in the decade prior to 2012, from 13,472 in 2002 to 9,878 in 2011 (NHTSA, 2012). In general, the reduction of such fatalities can be attributed, in past, to a number of changes in policy and practice related to the enforcement and prosecution of individuals arrested and convicted of a driving while impaired (DWI) offense. In particular, increases in the legal drinking age, lowered illegal thresholds for blood alcohol concentrations (BAC), increased use of monetary sanctions (e.g., fines), increased use of incarceration for DWI offenders, more focused use of substance abuse treatment, expanded use of electronic monitoring, and stricter community-based supervision practices carried out by probation and parole officers have played a role in reducing the number of alcohol-impaired-driving fatalities over the past decades (LaBrie, Kidman, Albanese, Peller, & Shaffer, 2007; Wagenaar et al., 2007).

Nevertheless, NHTSA and others have continued the work to further reduce the number of alcohol-impaired-driving fatalities. Greater efforts have been made in recent years to enhance assessment practices for those offenders convicted of DWI. That is, to identify methods for predicting which offenders are most likely to continue to drive impaired from those who are less likely to engage in this behavior. It is common practice for offenders in the justice system to undergo risk screening to estimate the level of risk for recidivism and determine the appropriate community supervision in order to mitigate that risk. Although a number of risk screening instruments are available for the general population of offenders, such as the Level of Service Inventory-Revised (LSI-R; Andrews & Bonta, 2010), there are no widely used risk assessment instruments specifically designed to assist probation officers or case managers in determining what, if any, level of community supervision is needed for the DWI offender.

In 2008, NHTSA provided funding to the American Probation and Parole Association (APPA) to develop an instrument that can increase the probability of identifying a DWI offender's risk of engaging in future conduct of impaired driving, and to help determine the most effective community supervision that will reduce such risk. This report provides a full overview of the project. First, discussion is provided of the development of the instrument, referred to as the Impaired Driving Assessment (IDA). This includes the steps taken by the project team to develop and then pilot test the IDA at jurisdictions across the country. Second, a description of the pilot study sample and the results of the statistical analyses are presented. Third, a discussion of the results is provided in order to summarize the items that were proven to be most effective in predicting recidivism among the sample. Fourth, an explanation of the practical application and use of the IDA is provided.

DWI Recidivism: A Review of Research and Practices

Research on DWI recidivism has established that its causal factors are a combination of alcoholism or addiction and the risky decision-making process of high-risk drivers—individuals who lack appropriate levels of restraint or self-control to resist the impulsivity of driving impaired (Keane, Maxim, and Teevan, 1993). Impaired driving is rooted in complex processes of social learning and psychological factors that promote antisocial attitudes, desires, motives, and rationalizations acceptable of law violations (e.g., Akers, 1998; Andrews & Bonta, 2010; Brauer, 2009; Burgess and Akers, 1966). This perspective suggests similar pathways to chronic criminal lifestyles, including impaired driving, exist and are rooted in psychosocial characteristics (Gottfredson & Hirschi, 1990; Jessor, Donovan, & Costa, 1991), and these characteristics supersede the specific technical aspects of any criminal activity (e.g., substance abuse disorders).

The Traffic Injury Research Foundation (TIRF) suggests that there are two general types of DWI offenders—the social and the hardcore (Simpson & Mayhew, 1991). Further analysis of these numbers reveals that less than five percent of drivers account for about 80 percent of the impaired driving episodes (see Beirness, Simpson, & Desmond, 2003). NHTSA's National Center for Statistics and Analysis data indicates that 25 to 30 percent of drivers with a blood alcohol concentration (BAC) level of .08 grams per deciliter (g/dL) or above who are involved in fatal crashes are repeat offenders. Identifying persistent impaired drivers is essential to developing effective intervention strategies.

For the purposes of the risk assessment tool, "risk" is defined as the probability of an individual convicted of one DWI being arrested for a subsequent DWI offense. Accurately classifying offenders according to their relative likelihood of being arrested for a subsequent DWI has several implications for organizational resources. Generally, higher risk offenders need more officer attention and agency resources than lower risk offenders. Research suggests treatment programs that incorporate both high- and low-risk offenders together can have a negative effect on low-risk offenders and less of an impact on high-risk offenders (Andrews, Zinger, Hoge, Bonta, Gendreau, & Cullen, 1990; Lowenkamp & Latessa, 2004).

Several screening instruments exist to measure the likelihood of substance abuse disorders and drinking problems. Some of these instruments attempt to predict subsequent DWI behavior, although such a task is difficult due to the improbability in determining the "true" occurrence of the drinking and driving behavior for an individual. Researchers continue to examine the differences between first-time DWI offenders and multiple DWI offenders. One assumed difference between the two groups is that multiple DWI offenders have higher levels of alcohol consumption in general, which may carry over to levels of consumption at time of arrest. Cavaiola and associates (2003), however, found evidence to dispute such an assumption, as the offenders within the two groups in their study did not differ on BAC at the time of their most recent arrests. With regard to other possible differences, the authors also considered psychological scales measuring depression, mania, and psychopathic traits between the two groups; yet, they did not find any significant differences.

In a follow-up study, Cavaiola and associates (2007) sought to isolate the characteristics of multiple DWI offenders who were followed over a 12-year period. The authors analyzed 77 first-time DWI offenders of which 38 percent were convicted of a subsequent DWI. Once again, significant differences were not found across BAC levels at the time of arrest, self-reported alcohol use disorders, or alcoholism potential. In other studies, however, multiple DWI offenders have been found to have higher BAC levels at the time of arrest (Chang, Gregory, & Lapham, 2002). Differences among these groups were found in their level of honesty or deception on the screening instruments, as multiple DWI offenders were more likely to be dishonest than first-time DWI offenders in the sample. In addition, multiple DWI offenders were found to have significantly more driving infractions than first-time DWI offenders.

Other research has determined differences in demographic factors among first-time DWI offenders and multiple DWI offenders. C'de Baca and associates (2001) found multiple DWI offenders to be younger (i.e., under 29 years old), single, male, less educated (i.e., fewer than 12 years of school), and more likely to be Hispanic. Chang and associates (2002) found age and education to be among the best predictors for recidivism. More specifically, offenders who were younger (i.e., 16 to 25 years old) and less educated (i.e., fewer than or equal to 12 years of school) were more likely to be convicted for a subsequent DWI.

Overall, previously existing substance abuse screening methods have not been able to accurately predict DWI recidivism. Given this, and the fact that there are not any widely used risk assessments in the field for DWI offenders, there was a need to develop an instrument that could provide baseline information to the court at the time of sentencing and to probation for purposes of supervision. The idea was that the instrument would not replace any substance abuse or general risk assessments. Instead, it would supplement other assessments used at this stage of the justice system process. The next step, then, was to begin identifying the critical items that comprise such an instrument.

Development of the IDA

Once the project team had reviewed the literature to discern what instruments were available and what research had been conducted to identify critical variables that can indicate the probability of DWI recidivism, they conducted a study to initiate the development of the IDA. First, they examined the responses of a large sample of DWI offenders from the Oklahoma Department of Corrections using questions from two commonly used substance abuse and general risk assessments in the field—the Adult Substance Use Survey (ASUS) and the Level of Service Inventory-Revised (LSI-R) —while being screened and assessed during the admission process. The ASUS, and its Revision, the ASUS-R (Wanberg, 2010), is used as a differential screening instrument to identify level of offender risk, level of substance use and abuse involvement, and supervision and referral needs of judicial clients. The LSI-R is one of the more popular general risk assessment tools used in the community corrections field today to measure recidivism and develop case plans for offenders (Hubbard, Travis, & Latessa, 2001; Lowenkamp, Lovins, & Latessa, 2009). In these analyses, the number of prior DWI offenses was used as the dependent variable or the variable to be predicted. Several critical items were found to be statistically associated with prior DWI arrests (see DeMichele & Lowe, 2011).

Both item and scale results of the Adult Substance Use and Driving Survey (ASUDS; Wanberg & Timken, 1998) and its revision (ASUDS-R; Wanberg & Timken, 2012) taken on four large samples of DWI clients from four different jurisdictions were studied. In particular, the responses of the offenders in the sample were examined in relation to risk outcome variables, including prior DWIs, prior alcohol and other drug (AOD) and DWI education and treatment, substance abuse and dependence diagnosis, and risk ratings by evaluators. The ASUDS/ASUDS-R is a more in-depth differential assessment of the DWI offender in the areas of substance use and abuse, alcohol involvement and other areas of life-adjustment problems.

Finally, a number of experts in the field of impaired driving research and treatment were consulted with respect to critical variables and areas of assessment that are most predictive of DWI recidivism. Feedback received from such experts provided guidelines for selecting the measurement components of the most appropriate instrument. From these steps, the project team identified several major risk areas of DWI recidivism. An individual's past behavior stood out across multiple risk areas. This included prior DWI and non-DWI involvement in the justice system and prior involvement with alcohol and other drugs. In addition, resistance to and non-compliance with current and past involvement in the justice system was identified as a major risk area. Mental health and mood adjustment problems were found to be a risk area as well.

All of these identified areas informed the inclusion of certain items on the development of the instrument, the IDA. The IDA is comprised of two components—a self-report and an evaluator report. This meets the standards for the convergent validation (CV) model of assessment (see Wanberg & Milkman, 2010; Wanberg, Milkman, & Timken, 2005), which holds that both self-report and evaluator-report data are essential in converging on the best estimate of the client's condition and that all sources of information are used in determining a client's level of community supervision needed, service referral needs, and probable DWI recidivism risk. As part of the initial development used during the pilot study, the self-report component of the IDA (IDA-SR or SR) is comprised of 33 questions designed to measure both retrospective and current perceptions of conditions related to mental health and mood adjustment, alcohol and other drug (AOD) involvement and disruption, social and legal non-conformity, and acknowledgment of problem behaviors and motivation to seek help for these problems. The evaluator report component of the IDA (IDA-ER or ER) is comprised of 10 questions that provided the other-report component of the CV approach in estimating the client's condition. The questions provide information around the client's past DWI and non-DWI involvement in the judicial system, prior education and treatment episodes, past response to DWI education and/or treatment, and current status with respect to community supervision and assignment to education and/or treatment services. The comparison of the two components also provides an estimate of the client's level of defensiveness and openness to self-disclose, measures that are also important in the estimation of potential risk for recidivism. Appendix A provides a description of the items on the IDA used in the pilot study, as well as how they were measured.

Methodology

Pilot Sites

Four adult county probation departments were selected to pilot the IDA with DWI probationers: Brown County Probation, Minnesota; Nicollet County Probation, Minnesota; Westchester County Probation Department, New York; and Tarrant County Community Supervision and Corrections Department, Texas. The agencies were selected via a competitive review process that was based on several selection criteria: estimated monthly intake of convicted DWI offenders, willingness to participate and meet all conditions during the course of the study, and ability to provide data on DWI cases using an electronic offender database system. In addition, all four agencies were utilizing evidence-based practices with DWI probationers under community supervision, including but not limited to: use of general risk assessments and substance abuse assessment tools; use of cognitive-behavioral approaches, such as the Driving With Care® program; and trained line supervision officers in motivational enhancement skills and techniques. Each site was awarded $15,000 for its participation in the study.

Brown and Nicollet Counties are adjacent to one another and located in a rural area of the southern part of Minnesota. Brown County is located 95 miles southwest and Nicollet County is located 68 miles southwest of Minneapolis, Minnesota. Due to their location, similar organizational structures, and small estimated monthly intake of convicted DWI offenders, Brown and Nicollet Counties were treated as one pilot site for purposes of the study. Westchester County is a large county with a general population of nearly one million, located about 30 miles immediately north of New York City. It has both rural and urban dimensions. Its county seat is White Plains. Tarrant County is also a large county with a general population of about 1.8 million and contains the cities of Fort Worth and Arlington, Texas.

Administration of the IDA

Selected personnel ("evaluators" hereafter), including line supervision officers, field supervisors, and mental health clinicians at each pilot site, underwent training on how to properly administer the IDA to probationers (Brown/Nicollet: n=16, Westchester: n=22, and Tarrant: n=34). The training was conducted by members of the project team on-site at each location between July and September 2011, although one training event was conducted online in December 2011 for evaluators who were unable to attend the on-site training. Evaluators were instructed to first complete the IDA-ER using information previously collected as part of the pre-sentence investigation. Then, evaluators were instructed to meet with the DWI probationers to administer the IDA-SR. For probationers who were illiterate, evaluators read the questions aloud and marked the appropriate responses given by the probationers. A Spanish version of the IDA-SR was used with non-English-speaking probationers. Once the IDA-SR was completed, evaluators were instructed to review it for missing data and/or answer patterns through a brief interview using motivational enhancement skills and techniques. Next, evaluators finalized the IDA-ER with probationers. Finally, evaluators placed both components in postmarked, self-addressed envelopes and mailed them to the project team.

The pilot sites implemented the IDA to new cases placed on probation supervision for a DWI offense during a specific time period. For Brown and Nicollet Counties, the implementation period was eight months, beginning August 1, 2011 and ending April 30, 2012. The implementation period for Westchester County was seven months, beginning September 1, 2011 and ending April 30, 2012. Finally, the implementation period for Tarrant County was six months, beginning October 1, 2011 and ending April 30, 2012.

Each probationer who agreed to participate in the study was provided a consent form by the officer who administered the IDA to her/him. The consent form provided the following information: purpose and goals of the study, including who was conducting the study and its funding agency; details for participation; process for handling data, including ways to ensure the data are kept confidential in order to not personally identify the participant; and contact information for the project team who oversaw the study. While the pilot sites were not instructed to maintain a formal record of DWI probationers in their respective jurisdictions who were eligible but refused to participate in the study, the project team held monthly conference calls with each pilot site to assess the number of refusals, which were reported to be minimal. In fact, the project team used these monthly calls to address any problems associated with the administration of the IDA. Evaluators from across all of the pilot sites were encouraged to contact the project team should they experience any problems or challenges with the administration process. Feedback received from evaluators about the administration process was consistently positive and no major problems with the training design were ever reported to the project team.

Study Sample

Trained officers across the four agencies administered the IDA to new DWI probation cases during their respective implementation periods. A total of 948 DWI probationers across the four agencies voluntarily participated in the study (Brown and Nicollet Counties: n=77; Westchester County: n=167; Tarrant County: n=704). Nearly three-fourths of the sample (72%) was male. About 60 percent of the probationers in the sample described their race and ethnicity as white/non-Hispanic, although over a quarter of probationers (28%) indicated they were of Hispanic origin; of these probationers, most described their race as "white" (n=133). The remaining probationers described themselves as bi-racial, Asian or Asian American, or American Indian or Alaskan Native. Nearly half of probationers in the sample (46%) indicated their marital status as "single, never married." Most of the probationers in the sample (43%) were age 30 years or younger, which was reflective of 36 years as the mean age for the entire sample. Finally, nearly half of the sample (48%) had graduated high school or obtained a GED, while over one-third of probationers (36%) had completed at least some college. The mean years of education for the entire sample were 12.6. Table 1 provides the frequency distribution of the descriptive statistics.

Table 1: Sample Demographics

Variable	*N (%)*
Sex	
Male	686 (72.4)
Female	262 (27.6)
Race/Ethnicity	
White/Non-Hispanic	564 (59.5)
Hispanic (various races)	270 (28.5)
Black/Non-Hispanic	87 (9.2)
Other	27 (2.8)
Marital Status	
Single	439 (46.3)
Living with Partner	68 (7.2)
Married	216 (22.8)
Separated	55 (5.8)
Divorced	153 (16.1)
Widowed	17 (1.8)
Age	
18-25	235 (25.0)
26-30	172 (18.3)
31-40	206 (21.9)
41-50	183 (19.5)
51-60	105 (11.2)
61+	39 (4.1)
Highest Level of Education	
8th Grade or Less	59 (6.4)
Some High School	89 (9.7)
High School Diploma/GED	441 (47.8)
Some College or More	333 (36.1)

N = 948

Additional descriptive information about the DWI probationers in the sample was collected either as part of or supplemental to the IDA, including DWI-related legal factors and educational and treatment services. BAC levels at the time of the current arrest were provided for approximately 65 percent of the sample. Of the remaining 35 percent, most probationers (n=243, 26%) refused the blood test at the time of their arrests. For the cases in which BAC levels were provided, 26 percent of the sample had BAC levels between .15 and .20. The mean BAC level among cases with known BAC levels was .166. Table 2 provides the frequency distribution of this information.

Table 2: Legal Factors, Services, and Supervision of the Sample

Variable	*N (%)*
BAC Level at Time of Arrest	
Non-Alcohol Drug Arrest/Refused/Unknown	335 (35.3)
.01-.08	37 (3.9)
.09-.14	191 (20.1)
.15-.20	248 (26.2)
.21+	137 (14.5)
Number of Prior DWI Arrests	
0	586 (62.1)
1	192 (20.3)
2	119 (12.6)
3+	47 (5.0)
Number of Prior DWI/AOD Education Program Episodes	
0	689 (73.1)
1	209 (22.2)
2	33 (3.5)
3+	11 (1.2)
Number of Prior AOD Treatment Program Episodes	
0	785 (83.2)
1	111 (11.8)
2	30 (3.2)
3+	18 (1.9)
Expected/Actual Probation Supervision Assignment	
Paper Monitoring	21 (2.3)
Less than 1 Face-to-Face Contact Per Month	50 (5.5)
1 Face-to-Face Contact per Month	665 (73.7)
2-3 Face-to-Face Contacts per Month	126 (14.0)
4+ Face-to-Face Contacts per Month	40 (4.4)
Referrals for DWI/AOD Education or Treatment	
No Referral	150 (16.0)
Education Only	477 (50.8)
Treatment Only	59 (6.3)
Both Education and Treatment	253 (26.9)

N = 948

Probationers were also tracked for a follow-up period of 12 months from the time they were placed on supervision and administered the IDA, giving some indication of success during the course of supervision. Several behavioral outcomes were collected during the follow-up period to examine their statistical associations with the SR and ER items for the sample, including: arrests for any charge, arrests for a DWI related charge, probation revocations,

positive drug tests for alcohol or other drugs, and missed scheduled appointments with probation officer. Approximately seven percent of the sample had at least one arrest during the follow-up period, while nearly 10 percent of probationers had their probation revoked due to technical violations. Twelve percent of the sample were either arrested or revoked during the study period. Thus, a dichotomized measure was computed for "probation failure" as the main outcome variable of interest in the study. Table 3 provides the frequency distribution of the outcome variables.

Table 3: 12-Month Follow-Up Outcomes for the Sample

Variable	*N (%)*
Number of Arrests for Any Charge During Study	
0	882 (93.0)
1	55 (5.8)
2+	11 (1.2)
Number of Arrests for DWI Charge During Study	
0	921 (97.2)
1	23 (2.4)
2	4 (0.4)
Number of Probation Revocations During Study	
0	859 (90.6)
1	81 (8.5)
2+	8 (0.9)
Number of Failed Drug Tests During Study	
0	835 (88.1)
1-2	77 (8.1)
3-4	19 (2.0)
5+	17 (1.8)
Number of Missed Appointments with Officer During Study	
0	714 (75.3)
1-2	184 (19.4)
3-4	29 (3.1)
5+	21 (2.2)

N = 948

Analytic Approach

Project staff utilized various statistical techniques to examine the relationships among the variables, including the effects the IDA items had on the main outcome variable, probation failure. Principal component factor analysis was initially conducted to identify potential reliable single-item and multiple-item scales in the two components of the IDA. In the end, eight scales were created based on the results of the factor analysis:

- PSYCHOSOCIAL,
- AOD INVOLVEMENT,

- LEGAL NON-CONFORMITY,
- ACCEPTANCE-MOTIVATION,
- DEFENSIVENESS,
- DWI RISK-SUPERVISION ESTIMATE (DRSE),
- SR GENERAL, and
- ER GENERAL

(See Appendix B for descriptions of the scales and the results of the factor analysis). These eight scales were found to be valid measures based on tests of construct validity (see Appendix C for an explanation of the psychometric properties of the scales).

Binary logistic regression was then conducted to examine the statistical effects of the eight itemized scales on the main outcome variable of interest, probation failure (i.e., new arrest or probation revocation during the 12-month follow-up period). This form of regression is suitable for dichotomized dependent variables. Essentially, logistic regression predicts the probability that a case will be classified into one as opposed to the other of the two categories of the dependent variable, and this classification is based on the independent variables. For each binary logistic regression model, the odds ratio is used to interpret the logit coefficient, which is based on a transformation from the probability (bounded between zero and one), to the odds (unbounded between zero and infinity). Odds are defined as the probability that an event will occur divided by the probability that an event will not occur.

Results of Pilot Site Study

Table 4 provides the results of the logistic regression models of the four IDA-SR itemized scales and probation failure, while controlling for key demographics. Each of the scales was examined independently (see Models A thru D) and then examined collectively (see Model E) to determine their associations with the dependent variable. Each of the scales had a positive, statistically significant relationship with probation failure when examined independently, with the PSYCHOSOCIAL scale having the strongest effect. More specifically, for each unit increase on the PSYCHOSOCIAL scale, probationers were 18 percent ($p<.01$) more likely to fail probation as compared to those with lower scores on the scale, holding the control variables constant, and we can be 95 percent certain that the actual effect falls between 11-25 percent. In other words, probationers with higher scores on these scales were more likely to fail probation during the study period. When included in the same model, however, the direction of the relationship had changed between the AOD INVOLVEMENT scale and probation failure and the ACCEPTANCE-MOTIVATION scale was no longer statistically significant. Nevertheless, the LEGAL NON-CONFORMITY and PSYCHOSOCIAL scales appeared to have the strongest effects on probation failure, which may have affected the impact AOD INVOLVEMENT and ACCEPTANCE-MOTIVATION had on the dependent variable. The Chi-square statistics for the five models suggest that the models fit the data well, with higher statistics indicating better fit.

Table 4: Logistic Regression of the SR Scales on Probation Failure

Variable	Model A		Model B		Model C		Model D		Model E	
	OR	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**
Legal	1.14**	1.10-1.19							1.14**	1.08-1.21
Psychosocial			1.18**	1.11-1.25					1.16**	1.08-1.24
AOD Involvement					1.05**	1.01-1.08			0.96*	0.92-1.00
Acceptance-Motivation							1.07*	1.00-1.15	0.96	0.89-1.04
Age	0.96**	0.94-0.98	0.96**	0.94-0.98	0.97**	0.95-0.99	0.96**	0.94-0.98	0.96**	0.94-0.98
Males	1.06	0.65-1.73	1.57	0.96-2.58	1.25	0.78-2.01	1.31	0.82-2.11	1.31	0.78-2.20
Education	1.01	0.92-1.10	0.99	0.91-1.08	0.96	0.88-1.04	0.96	0.89-1.05	1.03	0.94-1.13
Single (marital)	1.11	0.68-1.81	0.99	0.60-1.63	1.06	0.65-1.72	1.08	0.67-1.76	1.04	0.63-1.72
Whites (race)	1.39	0.89-2.17	1.45	0.92-2.28	1.31	0.82-2.09	1.60*	1.03-2.50	1.50	0.92-2.45
Model X^2	63.20**		50.38**		29.76**		26.70**		73.23**	
N	909		898		903		906		865	

OR: Odds Ratio; CI: Confidence Interval
*p<.05, **p<.01

Table 5 provides the results of the logistic regression models of the two scales generated to assess DEFENSIVENESS and the DRSE on probation failure. In Model A, for each unit decrease on the DEFENSIVENESS scale, probationers were 11 percent ($p<.01$) more likely to fail probation as compared to those with higher scores, holding the control variables constant, and we can be 95-percent certain that the actual effect falls between 5 and 17 percent. In other words, probationers who were less defensive were more likely to be arrested or revoked during the study period. In contrast, in Model B, for each unit increase on the DRSE scale, probationers were 4 percent ($p<.01$) more likely to fail probation as compared to those with lower scores on the scale, holding the control variables constant, and we can be 95 percent certain that the actual effect falls between 3-6 percent. This finding is promising, since the DRSE scale is comprised of items from both the SR and ER, as well two key demographic factors. The latter model also better fit the data, as indicated by the Chi-square statistic.

Table 5: Logistic Regression of Defensiveness and DRSE Scales on Probation Failure

Variable	Model A		Model B	
	OR	**95% CI**	**OR**	**95% CI**
Defensiveness	0.89**	0.83-0.95		
DRSE			1.04**	1.03-1.06
Age	0.97**	0.95-0.99	0.97**	0.95-0.99
Males	1.23	0.77-1.98	1.14	0.69-1.89
Education	0.96	0.89-1.05	0.99	0.91-1.09
Single (marital)	1.08	0.66-1.76	1.06	0.63-1.77
Whites (race)	1.28	0.81-2.03	1.07	0.67-1.72
Model X^2	32.99**		40.97**	
N	886		822	

OR: Odds Ratio; CI: Confidence Interval
*p<.05, **p<.01

Table 6 provides the results of the logistic regression models of the SR GENERAL and ER GENERAL scales on the dependent variable. In Models A and B, the scales are independently examined, while they are collectively examined in Model C to assess their overall effect on probation failure. Both scales were found to have positive, statistically significant relationships with the dependent variable. That is, for each unit increase on the SR GENERAL and ER GENERAL scales, probationers were 4 percent ($p<.01$) and 8 percent ($p<.01$), respectively, more likely to fail probation as compared to those with lower scores on the scales, holding the control variables constant. When examined together (see Model C), however, only the SR GENERAL scale remained statistically significant, while the ER GENERAL scale had a null effect on probation failure. As indicated by the Chi-square statistics, Model A better fit the data out of the three models.

Table 6: Logistic Regression of SR and ER General Scales on Probation Failure

Variable	Model A		Model B		Model C	
	OR	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**
SR General	1.04**	1.02-1.06			1.04**	1.01-1.06
ER General			1.08**	1.02-1.14	1.00	0.93-1.08
Age	0.96**	0.94-0.99	0.96**	0.94-0.98	0.97**	0.94-0.99
Males	1.17	0.72-1.88	1.23	0.75-2.04	1.17	0.71-1.94
Education	0.97	0.89-1.06	0.98	0.90-1.07	0.98	0.90-1.08
Single (marital)	1.06	0.65-1.73	1.13	0.68-1.87	1.16	0.70-1.94
Whites (race)	1.26	0.79-1.99	1.45	0.92-2.29	1.15	0.71-1.94
Model X^2	38.62**		25.66**		32.72**	
N	873		861		818	

OR: Odds Ratio; CI: Confidence Interval
*p<.05, **p<.01

Discussion of Results

The results of the regression models presented in this report are promising and begin to provide a clearer picture of the best predictors for DWI recidivism as included on the IDA, as well as the applicability of the IDA to identify the service-level needs of DWI probationers. A few patterns were revealed from the analyses and are worthy of further discussion. First, it seems apparent that legal and psychosocial factors had the strongest effects on probation failure. Key takeaways include those DWI probationers with more extensive legal histories (e.g., numerous arrests as juvenile and adult, incarceration in jail or prison) and more mental health and mood adjustment problems (e.g., depression, chronic unemployment) were more likely to be arrested or revoked during the study period.

Second, a relationship was also revealed between a probationer's AOD involvement and acceptance of his impaired-driving behaviors in predicting a new arrest or revocation. Probationers who reported higher levels of AOD involvement and who showed more acceptance of the problems caused by their impaired driving, and those who were less defensive, were more likely to fail probation during the study period. One interpretation of these findings may be that while these individuals may acknowledge their problematic behaviors from AOD use, they do not stop using and, as a result, become more entrenched in the legal system. Alternatively, these findings give support to the past research literature on DWI recidivism in that while AOD addiction is a key factor in determining the risk for recidivism, it may be confounded by other factors, such as risky driving behaviors and poor decision-making.

Third, the DRSE scale was among the scales with the strongest effect on probation failure. This is an important finding, because this scale is comprised of items from both the SR and ER, as well as two key demographic variables. So it is a fairly concise scale, as compared to the IDA in its entirety, and it was found to have sufficient predictability of recidivism. Given this, the DRSE scale is a good example of how the IDA may be used in practice at either the sentencing stage or during supervision. Evaluators may be able to use the factors that comprise this scale to make informed decisions about an individual's risk to reoffend and service-level needs.

With respect to the findings on the SR GENERAL and ER GENERAL scales, the results of the regression models found that the SR GENERAL scale had a stronger effect on the dependent variable than the ER GENERAL scale. In fact, only the model that included just the SR GENERAL scale only was the best fitted among the three presented in Table 6. Moreover, when included in the same model, the SR GENERAL scale remained statistically significant, while the ER GENERAL scale had a null effect on probation failure. Does this imply that the self-report data is more reliable than the ER data in predicting risk and identifying needs among DWI probationers in the sample? It is difficult to say, and further research is necessary to determine the reliability and importance of both types of data over the long term.

In conclusion, while these results are promising and are sufficient enough to warrant empirical support for the IDA in its current version, it is important to recognize drawbacks of the pilot study. First, the project team did not collect types of interventions (e.g., substance abuse treatment program) that the DWI probationers underwent as part of their supervision during the 12-month study period. Thus, it is unknown how such interventions, whether successful or not, impacted the outcomes. Second, while the objective of the current project was to develop and validate the IDA as a scientifically sound instrument, information obtained through the IDA was not used for purposes of case planning and supervision with the DWI offenders in the sample. It will be important to determine the extent of how evaluators use such information when making informed decisions about DWI offender cases under community supervision. Of course, this will come as justice system agencies begin to implement the IDA within their respective jurisdictions. Finally, even though the study sample in the current project was diverse with respect demographic and geographic factors, the validity of the IDA will need to be tested with other DWI offender populations, such as those under the supervision of tribal jurisdictions. Given these reasons, further research is necessary to continue the development of the IDA and strengthen its ability to predict risk and identify needs among DWI offenders.

Practical Application of the IDA

The main goal for the development of the IDA scales is to provide community supervision officers and the court with substantive information that can increase the effectiveness of community supervision and in discerning the most appropriate level of DWI/AOD education and treatment services. The IDA scales provide a brief screening of conditions that are important to address in both community supervision and intervention services, as it is important for both to be addressed in conjunction with one another. The IDA is designed so that it can be easily hand-scored by the evaluator. A *User's Guide* will provide evaluators with comprehensive instructions for how to administer the IDA and apply its findings. As part of this instruction, in

order to enhance the practical application of the IDA scales, the IDA SUMMARY form has been developed to summarize these scales and to give the evaluator a view of the DWI supervisee's problem areas in order to develop the supervision plan. Figure 1 provides a prototype of the SUMMARY. The scales of the profile use percentile and decile scores to standardize the raw scale scores of IDA. A brief interpretation of the profile for the case represented in Figure 1 is presented below, as well as a description of how to use the form.

Figure 1: IDA SUMMARY

A. DESCRIPTIVE INFORMATION

SUPERVISEE ID: ---	EVALUATOR: ---	DATE: ---
AGENCY: ---	ARREST DATE: ---	SENTENCING DATE: ---
AGE: 25	SEX: [X] MALE [ ] FEMALE	EDUCATION: high school diploma
RACE/ETHNIC: [X] WHITE/NON-HISP [ ] BLACK/NON-HISP [ ] HISPANIC [ ] ASIAN [ ] AI/AN [ ] OTHER		
MARITAL STATUS: [X] SINGLE [ ] PARTNER [ ] MARRIED [ ] SEPARATED [ ] DIVORCED [ ] WIDOW		

B. IDA SELF-REPORT (SR) AND EVALUATOR REPORT (ER) PROFILE

SCALE NAME	RAW SCORE	Low / Low-Medium / High-Medium / High — DECILE RANK 1 2 3 4 5 6 7 8 9 10
1. PSYCHOSOCIAL	7	8 9 10 26
2. AOD INVOLVEMENT	27	32
3. LEGAL NON-CONFORM	14	27
4. ACCEPTANCE/MOTIVATE	11	12 13 18
5. DEFENSIVENESS	2	3 4 5 6 7 8 9 10 11 12 16
6. SR GENERAL	43	77
7. ER GENERAL	7	8 9 10 11 13 25
8. DWI RISK-SUPERVISE EST.	52	96

1 10 20 30 40 50 60 70 80 90 99

PERCENTILE

IDA NORMATIVE SAMPLE N=922

C. SUMMARY OF CRITICAL ITEMS FOR EVALUATING SUPERVISION LEVEL

ARREST BAC: [ ].00-.07 [ ].08-.14 [ ].15-.19 [ ].20-.25 [ ].26+ [X]REFUSED	PRIOR DWI: [ ] 1 [X] 2 [ ] 3 [ ] 4+
PRIOR DWI/AOD EDUCATION EPISODES: [ ] 1 [X] 2 [ ] 3+	PRIOR AOD TREATMENT EPISODES: [X] 1 [ ] 2 [ ] 3+
PAST INTERLOCK: [ ] NEVER/DON'T KNOW [X] ON/COMPLIANT [ ] ON/NON-COMPLIANT	
OTHER ELEC. MONITORING TO DETECT ALCOHOL USE: [X] NEVER/DON'T KNOW [ ] ON/COMPLIANT [ ] ON/NON-COMPLIANT	
RELATED TO DWI ARREST: ACCIDENT [X] NO [ ] YES	BODILY INJURY [ ] NO [ ] YES / FATALITY [ ] NO [ ] YES
PAST FELONY DWI: [X] NO [ ] YES	CHILD WAS IN THE CAR AT THE TIME OF DWI ARREST: [X] NO [ ] YES

D. GUIDELINES FOR CONSIDERING SUPERVISION LEVEL

[X] ARREST BAC >.14 OR REFUSED	[X] PRIOR DWI ARRESTS	[X] PRIOR DWI/AOD EDUC	[X] PRIOR TREATMENT
DWI RISK-SUPERVISION ESTIMATE SCORE: [ ] LOW: 0-10 [ ] LOW-MEDIUM: 11-36 [ ] HIGH-MEDIUM: 37-50 [X] HIGH: 51-96			

E. EVALUATOR RECOMMENDATIONS

SUPERVISION LEVEL: LOW (PAPER/< 1 FACE/MO)	[ ] MEDIUM (1 FACE/MO)	[ ] HIGH (2-3 FACE/MO)	[X] MAX (4+ FACE/MO)
POSSIBLE SERVICE NEEDS: (CHECK ALL THAT APPLY)	[X] DWI/AOD EDUCATION [X] MENTAL HEALTH	[X] AOD TREATMENT [ ] FAMILY	[X] EMPLOYMENT/GENERAL EDUCATION [X] NON-DWI CRIMINAL CONDUCT

It seems necessary to provide some contextual information about the various components of this form before explaining its practical application. The evaluator completes Part A of the form, all of which can be taken from the SR and ER. Part B of the form allows the evaluator to plot the profile using the various scoring formats to understand the meaning of each of the IDA scales. Part C of the form includes several critical items commonly associated with assessing risk and determining level and length of supervision for DWI offenders. These items relate not only to the offender's potential engagement in future impaired-driving behavior, but also to the degree in which the offender has jeopardized traffic safety and put the community at risk. Part D of the form provides four critical variables that the evaluator may use, in conjunction with the DRSE scale, when developing the supervision and services plan of the DWI offender. Lastly, Part E of the form outlines the evaluator's recommendations for assigning community supervision to the DWI offender, based on all of the data and information acquired during the assessment and classification process.

Figure 1 provides a profile of a DWI probationer included in the pilot study sample, although some of the descriptive information has been withheld to protect the confidentiality of the subject. A number of issues can be ascertained using the information on the IDA SUMMARY form. The probationer scored low on the DEFENSIVENESS scale, and he seems self-disclosing and motivated to change. He was defensive at the time of arrest, however, based on his refusal of a BAC test. The probationer has a high level of past AOD involvement, particularly with alcohol and marijuana, which resulted in two episodes of AOD treatment. He also has a significant history of legal non-conforming conduct and involvement in the justice system with prior DWI arrests, short-term incarceration, and past placement on probation supervision. His justice involvement may also be non-DWI related. The probationer's scores on the SR GENERAL and ER GENERAL scales are congruent; yet, the SR GENERAL seems to reflect higher levels of problems. Finally, his scores on the AOD INVOLVEMENT, PSYCHOSOCIAL and LEGAL NON-CONFORMITY scales were higher than 90 percent of the other DWI probationers in the sample.

Based on this information, several recommendations can be made for this case. The probationer should be referred for more extensive evaluation in the areas of psychosocial, AOD use, and legal non-conforming conduct. Further, high risk and needs suggests that he would benefit from higher levels of community supervision and AOD treatment. Supervision should focus on risk for relapse into pattern of prior AOD-use problems and helping him learn how to manage the high risk situations that can lead to such problems and impaired driving. He should undergo random drug tests as part of the supervision process, as well as have an interlock device implemented on his vehicle when his driving privileges are restored. The treatment that he receives needs to address the thinking that leads to antisocial and legal non-conforming conduct.

All of the IDA scales can provide information for estimating risk along with a measure and scale similar to the DRSE scale. For example, a supervisee with a high score on the AOD INVOLVEMENT scale and high score on LEGAL NON-CONFORMITY will present as a higher risk for engaging in further AOD problematic use, but he is also at a higher risk for engaging in antisocial or legal non-conforming conduct, including impaired driving. Other unique circumstances and critical variables also aggravate the risk and service needs, such as high BAC, positive for other drugs at arrest, a serious crash, involvement of children, and injury

or death relating to the arrest. These factors should also be considered when determining the level of supervision. As stressed throughout this report, determining the kind of services that are needed for a particular DWI supervisee and his responsiveness to these services are primary objectives of IDA. The IDA SUMMARY will provide substantive guidelines for the evaluator in determining supervision and services.

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Appendix A: Description of IDA-SR and ER Items Used in Pilot Study

Item	Label	Response Options
SR_A	For the client's current DWI arrest, what was his/her Blood Alcohol Concentration (BAC)?	[two-digit number with decimal]
SR_B	Before the client's current arrest, how many times has he/she been arrested for DWI?	0 = zero 1 = once 2 = twice 3 = three or more
SR_1	Do you get depressed or have up and down moods?	0 = never 1 = sometimes 2 = often 3 = most of the time
SR_2	Do you get nervous, tense, or worry about things?	0 = never 1 = sometimes 2 = often 3 = very often
SR_3	Do you get angry, mad or hostile?	0 = never 1 = sometimes 2 = often 3 = very often
SR_4	Have you used alcohol or other drugs to feel less depressed or to relieve yourself of worries, stress or anxiety?	0 = no 1 = sometimes 2 = often 3 = very often

Item	Label	Response Options
SR_5	How many different times have you had treatment for mental or emotional problems?	0 = never 1 = one time 2 = two times 3 = three or more times
SR_6	What was your work or job status at the time of your current DWI arrest?	0 = worked full time at least 35 hours a week 1 = worked part time less than 35 hours a week 2 = not worked for up to 3 months 3 = not worked for more than 3 months
SR_7	Have you had problems keeping a job?	0 = no 1 = sometimes 2 = yes, a lot 3 = most of the time
SR_8	Do you have enough money each month for yourself and/or your family to live on?	0 = yes 1 = barely get by 2 = no, not at all
SR_9	How many times have you changed your address or neighborhood over the past five years?	0 = none 1 = 1 to 2 times 2 = 3 to 5 times 3 = 6+ times
SR_10	How many times in your lifetime have you been drunk or intoxicated on alcohol?	0 = never 1 = 1 to 5 times 2 = 6 to 10 times 3 = 11 to 20 times 4 = 21 to 50 times 5 = more than 50 times

Item	Label	Response Options
SR_11	How many times in your lifetime have you used marijuana (pot, hash, THC, dope, etc.)?	0 = never 1 = 1 to 5 times 2 = 6 to 15 times 3 = 16 to 25 times 4 = 26 to 100 times 5 = more than 100 times
SR_12	How many times in your lifetime have you used drugs other than alcohol or marijuana such as cocaine, amphetamines, inhalants, heroin, pain killers, sedatives or tranquilizers for non-medical reasons?	0 = never 1 = 1 to 5 times 2 = 6 to 10 times 3 = 11 to 15 times 4 = 16 to 25 times 5 = more than 25 times
SR_13	How many cigarettes do you smoke each day?	0 = never smoked 1 = quit smoking 2 = up to a half a pack 3 = up to a pack 4 = more than a pack
SR_14	When drinking, did you drunk at bars or in social settings?	0 = very seldom drank in these settings 1 = I did some drinking in these settings 2 = almost all drinking took place in these settings
SR_15	In the year before your DWI arrest, how many times a month did you drink five or more drinks on a single occasion?	0 = less than once a month 1 = about once a month 2 = from 1 to 4 times a month 3 = from 5 to 9 times a month 4 = more than 10 times a month

Item	Label	Response Options
SR_16	In your lifetime, how many times have you had a blackout (could not remember what you did), staggered or stumbled, or passed out when using alcohol or other drugs?	0 = never 1 = 1 to 2 times 2 = 3 to 4 times 3 = 5 or more times
SR_17	In your lifetime, how many times have you had a hangover, been sick, did not feel good, or had shakes after drinking or using other drugs?	0 = never 1 = 1 to 2 times 2 = 3 to 4 times 3 = 5 or more times
SR_18	Has your use of alcohol or other drugs ever caused you to miss work or not be able to meet family or social obligations?	0 = no 1 = a few times 2 = often 3 = very often
SR_19	In your lifetime, how many times have you driven without a license or on a suspended license?	0 = never 1 = a few times 2 = often 3 = very often
SR_20	Number of times you have received a ticket for a driving violation such as speeding, driving without a license, running a red light (do not count arrest for impaired driving)?	0 = never 1 = 1 to 2 times 2 = 3 to 4 times 3 = 5 or more times
SR_21	Have you taken risks when driving when you didn't have to or because you felt like it?	0 = no, never 1 = sometimes 2 = often 3 = very often

Item	Label	Response Options
SR_22	In your lifetime, how many times have you driven an automobile knowing you had too much to drink?	0 = never 1 = 1 to 5 times 2 = 6 to 10 times 3 = 11 to 25 times 4 = more than 25 times
SR_23	How many different times have you been enrolled in or admitted to a DWI education and/or treatment program?	0 = never 1 = 1 time 2 = 2 times 3 = 3 or more times
SR_24	How many times were you arrested for breaking the law before you were 18 years old?	0 = none 1 = 1 to 2 times 2 = 3 to 4 times 3 = 5 or more times
SR_25	How many times were you arrested for breaking the law after you turned 18 years old?	0 = none 1 = 1 to 2 times 2 = 3 to 4 times 3 = 5 or more times
SR_26	In your lifetime, what is the total number of months you have been on probation or parole prior to your current DWI arrest?	0 = never 1 = up to 6 months 2 = 7 to 12 months 3 = more than 12 months
SR_27	In your lifetime, how many times has your probation been revoked?	0 = never 1 = once 2 = twice 3 = more than two times

Item	Label	Response Options
SR_28	In your lifetime, what is the total amount of months you have been in a locked facility, jail or prison?	0 = none 1 = less than a month 2 = 1 to 6 months 3 = 7 to 12 months 4 = more than 12 months
SR_29	How serious of a problem is your DWI for you?	0 = not serious 1 = somewhat serious 2 = serious 3 = very serious
SR_30	How much blame do you put on yourself for getting your most recent DWI?	0 = very little blame 1 = some blame 2 = a lot of blame 3 = I am totally to blame
SR_31	Do you think you need help for problems with alcohol or other drug use?	0 = no, not at all 1 = yes, maybe 2 = yes, most likely 3 = yes, for sure
SR_32	Would you attend a treatment program to get help for your alcohol or other drug problems?	0 = no, not at all 1 = yes, maybe 2 = yes, most likely 3 = yes, for sure
SR_33	How much support do you have from family, significant others, or friends during this time of dealing with your DWI arrest and sentencing?	0 = no support 1 = very little support 2 = some support 3 = a lot of support

Item	Label	Response Options
ER_1	How many different **non-DWI or non-motor vehicle** involvements has this client had with the judicial system to include arrests, convictions, probation, or incarcerations?	0 = none 1 = one 2 = two 3 = three or more
ER_2	BAC for current arrest?	[two-digit number with decimal]
ER_3	Number of prior DWI arrests (do not include current arrest)?	0 = none 1 = one 2 = two 3 = three or more
ER_4	Number of prior DWI/AOD education episodes this client has been involved in?	0 = none 1 = one 2 = two 3 = three or more
ER_5	Number of prior DWI/AOD treatment episodes this client has been involved in?	0 = none 1 = one 2 = two 3 = three or more
ER_6	Prior to the current offense, has the client been required to complete a DWI education or treatment program (check only **one** of the following statements)?	0 = no 1 = yes
ER_6aa	If "yes," did the client have successful completion of at least one DWI education or treatment program?	0 = no 1 = yes
ER_6ab	If "yes," did the client have at least one failure to complete such an education or treatment program?	0 = no 1 = yes

Item	Label	Response Options
ER_6ac	If "yes," did the client have at least two or more failures to complete such an education or treatment program?	0 = no 1 = yes
ER_7	Has the client ever been required to use an ignition interlock for his or her vehicle?	0 = never 1 = yes, was required and was compliant 2 = yes, was required, but was not compliant
ER_7a	If "2" was checked, indicate number of failed starts and/or failed rolling retests or tampering?	[approximate number]
ER_8	Has the client been placed under electronic monitoring, including SCRAM (secure, continuous, remote, alcohol monitoring), as part of his/her current assignment of community supervision?	0 = no 1 = yes
ER_9	What will be the client's expected or actual assignment of community supervision?	0 = placed under paper monitoring only 1 = assigned less than 1 face-to-face contact per month 2 = assigned 1 face-to-face contact per month 3 = assigned 2-3 face-to-face contacts per month 4 = assigned 4+ face-to-face contacts per month
ER_10	What will be the client's expected or actual assignment to education and/or treatment services?	0 = determined that client would not be referred 1 = referred to only DWI/AOD education 2 = referred to only DWI/AOD treatment services 3 = referred to both DWI/AOD education and treatment

Appendix B: Factor Analysis and Extension Correlations

A number of steps were taken to estimate the number of factors, including the root one criteria, the screen curve, number of items measuring a particular factor, and logical inclusion of items into a particular construct. Both varimax and oblimin rotations were used to derive simple structures. The oblimin rotation allows for the factors to be correlated so as having a better understanding of the degree of covariance found among the factors.

First, a principal components analysis was done on the IDA-ER items. Table B-1 provides the results of this analysis. The second column of Table B-1 provides the loadings of the items in the set of nine questions that were selected to measure a reliable single factor or dimension, the ER General Risk-Needs Scale (ER GENERAL). The second column provides the correlation of each item with the total score of the IDA-ER General Scale. The results indicate that 9 of the 10 basic items in the ER come together to measure a reliable dimension of conditions related to impaired driving. The variable arrest BAC had essentially a zero loading on this factor. This suggests that BAC represents a separate and independent measure of DWI risk.

Table B-1: Principal Component Factor Analysis of ER General Items

Item Description and Number on the IDA-ER	Factor Loading	Correlation
1. Number of different non-DWI motor vehicle involvements	.39	.57
3. Number prior DWI arrests (not including current arrest)	.81	.80
4. Number of prior DWI/AOD education episodes	.78	.70
5. Number of prior DWI/AOD treatment episodes	.67	.63
6. Required to take DWI/AOD ed/tx prior to current DWI	.80	.67
7. Client has been required to use an ignition interlock	.30	.25
8. Part of current sentence electronic monitoring required	.27	.38
9. Category of assignment to community supervision	.48	.59
10. Level of assignment to education and/or treatment	.52	.60

N = 948

The results indicate that there are several reliable and valid factors or dimensions that describe AOD use and abuse and conditions related to that use and abuse. Not only will understanding the level of problems of impaired driving offenders help in developing the supervision and intervention plan, but different dimensions or kinds of impaired driving offenders may require different kinds of judicial supervision and intervention approaches. The outcome of community supervision and intervention may differ with respect to these different dimensions or types of offenders as well. A more accurate identification of these kinds of impaired driving offenders will depend on a more comprehensive assessment as the client enters the next phase of assessment. It is important, however, that preliminary indications are identified as to how the client might fit the various dimensions that are relevant to the offender's community supervision needs and to outcomes at the intake and assessment stage. In this regard,

it is expected that DWI offenders will differ with respect to how they fit or score across these different dimensions or factors.

A principle components analysis was also done on all of the IDA-SR items. From that analysis, 23 of the most salient loadings on this factor was considered to be the best measure of a single condition related to impaired-driving, as reported by the subjects in the sample. The first column of Table B-2 provides the loadings of the items in the set of 23 questions that were selected to measure a reliable single factor or dimension, the SR General Risk-Needs Scale (SR GENERAL). The second column provides the correlation of each item with the total score of the SR General scale.

Table B-2: Principal Component Factor Analysis of SR General Items

Item Description and Number on the IDA-SR	Factor Loading	Correlation
A. Number of prior DWI arrests	.46	.46
1. Get depressed or have up and down moods	.44	.44
2. Get nervous, tense, or worry about things	.43	.43
3. Get angry, mad or hostile	.40	.39
4. AOD use to feel less depressed, anxious, stressed	.69	.70
5. Times had treatment for mental health problem	.42	.43
7. Had problems keeping a job	.34	.34
10. Number times drunk in lifetime	.65	.65
11. Times used marijuana	.50	.59
12. Times used drugs other than alcohol or marijuana	.59	.59
15. Times a drank five more drinks on single occasion	.62	.63
16. Times had symptoms like blackout, stumbled, etc.	.74	.75
17. Times had hangover	.66	.66
18. Missed work, social obligations due to AOD use	.67	.67
20. Non-DWI driving citations	.36	.37
21. Taken risks when driving	.52	.52
22. Drove when knew had too much to drink	.65	.64
23. Times enrolled in AOD/DWI education and/or treatment	.33	.30
25. Times arrested after age 17	.60	.60
26. Total times on probation/parole	.39	.42
28. Times incarcerated	.42	.42
31. Need help with AOD problems	.59	.58
32. Would attend treatment	.40	.39

N = 948

The selected 26 items were used to define a reliable four-factor pattern. The selection of the core set was based on several criteria. First, as Table B-2 reveals, the core items were the most salient loaders on each of the factors. In addition, items were studied with respect to statistical dependency. For example, if two items were highly correlated (indicated also by these two items creating a single component), the item with the best variance and that logically contributed to the factor was put into the core set. Items with lower factor loadings on other factors were excluded in a given factor with, again, the goal of achieving factor independence. The results in Table B-2 provide evidence for a relatively clean four-factor pattern with the items having high loadings on their respective factor and low loadings on the other factors.

An extension analysis was used to determine the value of the remaining items excluded in the core set in determining the final factor scales. Two of these items (i.e., change of residence and family support) were eliminated from the analyses due to low extension correlations. Arrest BAC was also eliminated for two reasons: low correlations with the four scales; and because it will be used as a separate variable to estimate risk, supervision level, and service needs. The six remaining extension variables were included in the factor scale where it had either the best psychometric and content validity fit.

Table B-3 provides the principal component factor loadings and extension correlations of the four factor scales using the SR items. The four factor scales are separated by double lines in the table and they are also labeled in the first row of each column: Scale 1 – PSYCHOSOCIAL; Scale 2 – AOD INVOLVEMENT; Scale 3 – LEGAL NON-CONFORMITY; and Scale 4 – ACCEPTANCE-MOTIVATION. Internal consistency of the of the four SR scales was evaluated by looking at the loadings of the principal components analysis for each factor scale. The first component is the best estimate of the degree of variance that each item contributes to the measurement of the scale.

Table B-3: Factor Loadings and Extension Correlations of Four SR Itemized Scales

Name of Scale and Description of Items	Factor Loadings/Extension Correlations			
SCALE 1: PSYCHOSOCIAL	SCALE 1	SCALE 2	SCALE 3	SCALE 4
1. Get depressed/up and down moods	**.76**	.09	-.14	.00
2. Get nervous, tense, worry	**.73**	.13	-.15	-.02
3. Get angry, mad	**.51**	.14	-.02	-.01
4. AOD use to feel less depressed	**.52**	.24	.04	.30
5. Past mental health treatment	**.63**	.02	-.05	.06
6. Employment status - not working	**.53**	-.12	.04	-.14
7. Problems keeping a job	**.47**	-.12	.16	.11
8. Not enough money	**.38**	.36	-.23	-.02
SCALE 2: AOD INVOLVEMENT	SCALE 1	SCALE 2	SCALE 3	SCALE 4
10. Number of times drunk on alcohol	.11	**.70**	.04	.19
11. Number times used marijuana	.21	**.43**	.36	-.06
14. Drank at bars, social settings	-.05	**.57**	-.08	-.09
15 Binge drinking	.16	**.50**	.07	.26
16. Had Blackouts/stumbled/passed out	.27	**.53**	.10	.28
17. Had hangovers, sick, shakes	.19	**.59**	.02	.23
20. Number of driving violations	-.01	**.49**	.14	-.33
22. Drove knew had too much to drink	-.01	**.50**	.20	-.11
*21. Took risks when driving	.24	**.35**	..30	..23
SCALE 3: LEGAL NON-CONFORMITY	SCALE 1	SCALE 2	SCALE 3	SCALE 4
19. Drove with suspended license	-.02	-.04	**.51**	.09
24. Times arrested before age 18	.00	.09	**.61**	-.23
25. Times arrested after age 17	.00	.32	**.61**	.06
26. Months in lifetime on probation	-.06	.02	**.63**	.10
27. Have had probation revoked	-.06	-.08	**.70**	.01
28. Number months in jail or prison	-.02	.02	**.76**	.01
*12. Drugs other alcohol/THC	.42	.30	**.39**	.23
*B. Prior DWI arrest	.15	.14	**.44**	.33
SCALE 4: ACCEPTANCE-MOTIVATION	SCALE 1	SCALE 2	SCALE 3	SCALE 4
29. See DWI as a serious problem	-.05	.11	-.03	**.41**
30. Self to blame for getting a DWI	-.12	.14	-.03	**.48**

Name of Scale and Description of Items	Factor Loadings/Extension Correlations			
31. Need help for AOD problem	.14	-.09	.14	**.77**
32. Would attend AOD treatment	.06	-.22	.04	**.80**
*18.Missed work due to AOD use	.40	.33	.34	**.42**
*23.Have had AOD education/treatment	.21	.11	.22	**.22**

*Extension correlations shown
Note: Items in bold indicating they were used to score the respective scales

Another scale was created to assess the defensiveness and reluctance to self-disclose among the subjects in the sample. This is an important component at all stages of assessment, particularly in its initial phase. Highly defensive clients will need a higher level of motivational enhancement. It is also common to find that impaired-driving offenders are more defensive and more reluctant to self-disclose than non-DWI offenders. Thus, at the outset, we can expect most DWI clients to be relatively defensive. The level of defensiveness will also impact how well the self-report responses estimate the current condition and problems of the offender. Research indicates that those with moderately high levels of defensiveness have lower levels of problems associated with AOD use and abuse (see Wanberg & Timken, 2012).

To measure defensiveness, 13 items were selected from the SR. The items were weighted so that defensiveness had a high score. For example, Item 10, "Number of times in lifetime that you have been drunk or intoxicated on alcohol," a "Never" response was scored as "2", 1 to 5 times scored 1, and all other responses scored "0." Thus, a "0" score would indicate that the offender is staying "Yes," or is at least somewhat self-disclosing. Table B-4 provides the 13 items, their factor loadings, and the percentage of subjects in the sample that responded "never" or "no" to each item.

Table B-4: Factor Loadings and Percentages of Defensiveness Scale Items

Item Description and Number on IDA-SR	Factor Loadings	%
1. Never get depressed or have up and down moods	.52	41.8
2. Never get nervous, tense, or worry about things	.47	18.2
3. Never get angry, mad or hostile	.48	44.4
4. Never use AOD to feel less depressed, anxious, stressed	.65	62.1
10. Never drunk on alcohol in lifetime	.64	3.2
15. Before DWI arrest, never drank 5+ drinks less than once/month	.52	3.2
17. Never had hangover, got sick, not feel good after drinking/using drugs	.54	22.3
21 Never took risks when driving	.50	64.6
22. Never drove when knew had too much to drink	.63	18.7
25. Never arrested for breaking law after age 17	.35	24.3
29. DWI not a serious problem	.32	11.4

Item Description and Number on IDA-SR	Factor Loadings	%
30. Very little self-blame for getting a DWI	.37	4.4
31. Do not need help with AOD problems	.50	69.3

A final scale was created using principal component factor analysis to discern items across both the SR and ER, in addition a few key demographic variables that provide the best estimate to develop guidelines for risk and supervision of DWI offenders. This scale is referred to as the DWI RISK-SUPERVISION ESTIMATE (DRSE) scale. It includes 23 items from the SR, seven items from the OR, age (0=26+ years old, 1=18 to 25 years old), and marital status (0=other, 1=single). Table B-5 provides the factor loadings of the items and their correlations with the main criterion variable in the pilot study, probation failure (i.e., whether subject was arrested or revoked).

Table B-5: Factor Loadings and Correlations of DRSE Scale

Item Description	Factor Loadings	Correlation
SR1. Get depressed or have up and down moods	.38	.11**
SR2. Get nervous, tense, worry about things	.36	.08
SR4: AOD use to feel less depressed, stressed	.63	.10*
SR5. Times mental health problem treatment	.39	.04
SR6. Unemployed work status	.17	.13**
SR8. Not enough money to live on	.16	.08
SR10. Number times drug in lifetime	.58	.09*
SR11. Times used marijuana	.58	.13**
SR12. Times used other drugs	.58	.13**
SR15. Times drank 5 or more drinks on 1 occasion	.51	.04
SR16. Times had symptoms like blackouts, stumbled	.67	.08
SR17. Times had hangover	.58	.04
SR18. Missed work, social, family due to AOD use	.63	.08
SR19. Number of times driving without license	.35	.15**
SR21. Taken risks when driving	.48	.06
SR22. Drove knew had too much to drink	.61	.03
SR24. Times arrested before age 18	.31	.22**
SR25. Times arrested after age 17	.65	.17**
SR26. Total times on probation	.50	.18**
SR27. Number of months has been on probation	.39	.16**
SR28. Times incarcerated	.51	.18**

Item Description	Factor Loadings	Correlation
SR31. Need help for AOD problems	.58	.03
SRA. Number of prior DWI arrest	.58	.05
ER1. Number of non-DWI/non-motor vehicle arrests	.40	.14**
ER4. Number of prior DWI/AOD education episodes	.45	.00
ER5. Number of prior DWI/AOD treatment episodes	.48	.14**
ER6. Required education/treatment prior to arrest	.46	.08
ER8. Placed on electronic monitoring	.24	.03
ER9. Expected probation assignment	.33	.02
ER10. Expected education/treatment assignment	.38	.00
AGE: AGE 18 through 25=1; age 26 through high=0	.00	-.12**
SINGLE MARITAL STATUS: single=1; other=0	.09	.13**

Appendix C: Psychometric Properties of the IDA Scales

Construct validity "refers to all the evidence, and sound theory derived from evidence, that can be brought to bear in the interpretation of the measurements of a scale" (Horn, Wanberg, & Foster, 1990, p. 30). Cronbach (1986) sees all evidence pertaining to validity and all forms of validity as traditionally described—criterion, predictive, content, concurrent, and relevancy—as subsumed under the rubric of construct validity. This understanding of construct validity has been commonly accepted in the field of psychometrics. Evidence of construct validity includes all of the relevant correlates pertaining to a particular test or measure that adds to the interpretation and meaning of that measure. It has to do with how well the scales of a test measure what they are intended to measure.

Construct validity can be divided into two categories: internal criterion and external criterion. Internal criterion construct validity refers to measures within the test or scale itself, including scale psychometric properties, content validity, internal consistency, test-retest reliability, scale independence, scale intercorrelations, and raw score distributions. External criterion construct validity refers to the relationship of the scales to external criterion measures. A scale's significant correlation with an external criterion that helps explain the meaning of the measure this provides evidence of construct validity. External criterion is comprised of measures outside of a scale and may have no bearing on the operational measurement qualities of that scale. Some evidence of construct validity in these two areas is summarized below.

Internal consistency reliability (ICR) is an important component of internal criterion validity. Table C-1 provides the ICR based on Cronbach's alpha test for each of the eight scales along with their means and standard deviations. All scales have optimal internal consistency reliability except for Scale 4, ACCEPTANCE-MOTIVATION. Three additional questions have been added to the SR in order to increase the measurement reliability of Scale 4. Internal consistency of each scale has also been cross-verified by examining the loadings on the first factor of a principal components analysis. Loadings of all items in each scale are well within acceptable range.

Table C-1: Psychometric Properties of the IDA Scales

Scale	Mean	SD	ICR	SMR	PUV
1. PSYCHOSOCIAL	4.22	3.19	.72	.19	.53
2. AOD INVOLVEMENT	18.89	6.45	.82	.34	.48
3. LEGAL NON-CONFORMITY	4.91	4.33	.76	.31	.45
4. ACCEPTANCE-MOTIVATION	7.42	3.18	.62	.25	.37
5. DEFENSIVENESS	5.01	3.17	.74		
6. SR GENERAL	20.77	11.59	.88		
7. ER GENERAL	6.51	3.50	.73		
8. DWI RISK-SUPERVISION ESTIMATE	25.03	12.74	.87		

Another component of internal criterion construct validity is for the basic IDA scales to have measurement independence. Two criteria are used to determine scale independence: percent unique variance (PUV) and intercorrelations among the scales. The PUV of each SR scale is provided in Table C-1. Whereas the ICR represents the true, non-error, variance of a scale, the squared multiple correlation (SMR) represents the variance of a particular scale that is measured by all of the other scales combined, or the variance that a particular scale has in common with all of the other scales. The PUV is represented by the ICR minus the SMR. This provides the unique variance that what a scale measures is not measured by all of the other scales combined. The standard is that each scale is able to measure at least 10 percent of what all of the other scales combined do not measure. The PUV values all are greater than 35 percent, well beyond the expected standard.

The second criteria to determine scale independence is intercorrelations among the scales. Intercorrelations among the four basic SR scales, as provided in Table C-2, are optimal. For example, one of the largest intercorrelations is between AOD INVOLVEMENT and ACCEPTANCE at 0.44. These two scales share only 20 percent common variance. That is, one scale measures 20 percent of what the other scale measures; or each measure 80 percent of what the other scale does not measure. The correlations between the four SR basic scales and DEFENSIVENESS, SR GENERAL, AND DRSE are expected to be high because they have overlapping items or share common items. They are not expected to be independent of each other or of the basic IDA scales. Another internal criterion construct validity features of the IDA scales is face- or content validity. Observations of the items in each scale show that their content are representative of the concept or construct being measured.

Table C-2: Intercorrelations Among the IDA Scales

Scales	**1.**	**2.**	**3.**	**4.**	**5.**	**6.**
1. PSYCHSOCIAL						
2. AOD INVOLVEMENT	.37					
3. LEGAL NON-CONFORMITY	.34	.51				
4. ACCEPTANCE-MOTIVATION	.31	.44	.41			
5. DEFENSIVENESS	-.52	-.79	-.43	-.57		
6. SR GENERAL	.59	.88	.75	.64	.80	
7. ER GENERAL	.24	.29	.64	.42	-.28	.52
8. DWI RISK-SUPERVISION ESTIMATE	.61	.81	.82	.58	-.72	.96

A number of analyses have been conducted to evaluate the correlations of the scales with external measures. Table C-2 provides some evidence of this type of validity. For the most part, information for the 10 ER items comes from the client's record. However, when that information is not available, the officer uses the client's response. Since some of the legal history items in the SR are in the ER, we would expect to see fairly high correlations between the ER GENERAL

and the LEGAL NON-CONFORMITY scales, which is .64 or the two scales share about 40 percent common variance. However, the LEGAL NON-CONFORMITY scale measured more legal history features than the ER GENERAL, and we would expect the correlation to be in that range.

Most important is that none of the questions in the PSYCHSOCIAL and the AOD INVOLVEMENT scales are in the ER, and only one item in the ACCEPTANCE scale is in the ER scale (i.e., , "times enrolled in a DWI education or treatment program"). Yet, the correlations between these three SR scales and the ER scale are 0.24, 0.29, and 0.42, respectively. This indicates that although the three SR scales and the ER scale represent separate constructs, the significant correlations provide construct validity that both the SR and ER are measuring important features and conditions common to DWI offenders. One other important aspect of the construct validity of the SR scales is that repeat offenders compared with first offenders have significantly higher scores across all of the SR scales. This is a consistent and robust finding reported in the literature.

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