DVI: AN INVENTORY OF SCIENTIFIC FINDINGS

DOMESTIC VIOLENCE INVENTORY, DVI Pre-Post & DVI-Juvenile

Courtesy of Behavior Data Systems, Ltd. and its subsidiaries
Risk & Needs Assessment, Inc.
Professional Online Testing Solutions, Inc.

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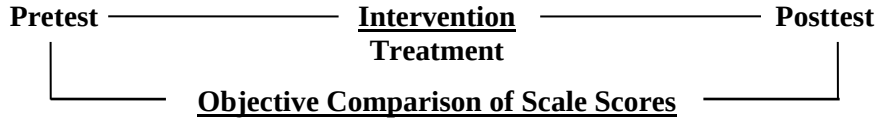
PREFACE

This document is a cumulative research record of the evolution of the Domestic Violence Inventory (DVI) into a state-of-the-art domestic violence perpetrator assessment instrument. It should be noted that research studies are presented chronologically, from 1985 to the present, in the same order each of the research analyses was done. **Recent studies are most representative of the DVI.** No attempt has been made to incorporate all DVI research into this document. However, it is representative of the DVI's reliability, validity and accuracy.

The Domestic Violence Inventory (DVI) is an automated computerized assessment instrument designed specifically for the assessment of perpetrators of domestic violence. There are three versions of the DVI: **Domestic Violence Inventory (DVI), DVI-Juvenile and DVI Pre-Post.** The proprietary DVI database ensures continued research and development. The DVI is a brief, easily administered and automated (computer scored) test that is designed for domestic violence offender assessment. It includes true/false and multiple choice items and can be completed in 30 minutes. The DVI contains six empirically based scales: Truthfulness, Violence (Lethality), Control, Alcohol, Drug and Stress Coping Abilities. The DVI has been researched on domestic violence offenders, college students, outpatients, inpatients, probationers and others.

The DVI report explains client's attained scores and makes specific intervention and treatment recommendations. It also presents Truth-Corrected scores, significant items, multiple choice items and much more. The DVI is designed to measure the severity of domestic violence offender problems in judicial, correctional, probation and parole systems. It is a risk and needs assessment instrument. The DVI has demonstrated reliability, validity and accuracy. It correlates impressively with both experienced staff judgment and other recognized tests.

The DVI Pre-Post provides an objective comparison of DVI pretest and posttest results. Although derived from the DVI, this test objectively compares pretest and posttest scale scores and provides objective results. **The DVI Pre-Post is an outcome measure.**



DVI tests can be given directly on the computer screen or in paper-pencil test booklet format. All tests are computer scored on-site. DVI reports are available within three minutes of test completion. Diskettes contain all of the software needed to score tests, build a database and print reports. The DVI Windows version also has an optional human voice audio presentation that presents the test on the computer screen with accompanying auditory presentation of the text seen on the computer screen.

DVI users are typically not clinicians or diagnosticians. Their role is usually to identify client risk, substance (alcohol and other drugs) abuse and client need prior to recommending intervention, supervision levels and/or treatment. The DVI is to be used in conjunction with a review of available records and respondent interview. No decision or diagnosis should be based solely on DVI results. Client assessment is not to be taken lightly as the decisions made can be vitally important as they effect peoples lives. DVI research is ongoing in nature, so that evaluators can be provided with the most accurate information possible.

INTRODUCTION

DOMESTIC VIOLENCE INVENTORY (DVI)

Increased public awareness of domestic violence abuse and substance (alcohol and other drugs) abuse as a nationwide health problem has clarified the need for identification and treatment of these disorders. Rising costs have placed increasing responsibilities on all persons working with perpetrators of domestic violence and substance abusers. Workers in the field must now document and substantiate their intervention and treatment. Patients, clients, their families, probation departments, the courts, diversion programs, corrections programs and funding agencies are now requiring substantiation and documentation of staff decision making. Substance abuse and dependency problems must now be measured in terms of degree of severity, with quantitative statements substantiating intervention and treatment.

The Domestic Violence Inventory (DVI) was developed to help meet the needs of judicial court screening and assessment. The DVI is designed for domestic violence offender assessment. It is available in English and Spanish. The DVI helps evaluate violence prone offenders, substance (alcohol and other drugs) abusers, controlling individuals and the emotionally disturbed. It is particularly useful in family courts, municipal courts and county courts. It can be used to measure the severity of domestic violence offender problems in judicial, correctional, probation and parole systems. DVI reports are particularly useful at pre-sentence hearings. In these reports quantitative information is obtained by empirically based measures (scales) which independently generate risk (percentile) scores. Scale development is based upon nearly 20 years of research. In addition, explanatory paragraphs describe attained scores and contain specific score-related recommendations. And each scale is presented graphically in the DVI profile.

DOMESTIC VIOLENCE INVENTORY
MEASURES OR SCALES

1. **Truthfulness Scale**
2. **Violence Scale**
3. **Control Scale**
4. **Alcohol Scale**
5. **Drug Scale**
6. **Stress Coping Abilities Scale**

The DVI is a brief, easily administered and interpreted domestic violence screening or assessment instrument. It is particularly useful in family courts, municipal courts and county courts. The DVI represents the latest developments in psychometric techniques and computerized technology. The DVI can be administered on a computer (IBM-PC compatibles) screen or by using paper-pencil test booklets. Regardless of how the DVI is administered, all tests are scored and interpreted with a computer which generates DVI reports.

The DVI requires approximately 30 minutes for completion and is appropriate for juveniles through adulthood. The DVI is composed of True-False and multiple-choice items. It can be administered individually or in groups. The language is direct, non-offensive and uncomplicated. Automated scoring and interpretive procedures help insure objectivity and accuracy. The DVI is to be used in conjunction with a review of available records, a focused interview and experienced court staff judgment.

The DVI was designed to provide carefully developed measures (called scales) of several behavioral patterns and traits of interest to those working with perpetrators of domestic violence. The measures (scales) chosen for inclusion in the DVI further the understanding of the domestic violence offender. In addition, they provide important information on the client's test taking attitude, emotional/behavioral adjustment, and much more.

UNIQUE FEATURES

Truth Correction: A sophisticated psychometric technique permitted by computerized technology involves "truth-corrected" scores which are calculated individually for DVI scales. Since it would be naive to assume everybody responds truthfully while completing any self-report test, the Truthfulness Scale was developed. **The Truthfulness Scale establishes how honest or truthful a person is while completing the DVI.** Correlations between the Truthfulness Scale and all other scales permit identification of error variance associated with untruthfulness. This error variance can then be added back into scale scores, resulting in more accurate "Truth-Corrected" scores. Unidentified denial or untruthfulness produces inaccurate and distorted results. Raw scores may only reflect what the client wants you to know. **Truth-Corrected scores reveal what the client is trying to hide.** Truth-Corrected scores are more accurate than raw scores.

Risk Range Percentile Scores: Each DVI scale is scored independently of the other scales. DVI scale scoring equations combine client pattern of responding to scale items, Truthfulness Scale and prior history that is contained on the DVI answer sheet. The Truthfulness Scale applies a truth-correction factor so that each scale score is referred to as a Truth-Corrected scale score. These Truth-Corrected scale scores are converted to the percentile scores that are reported in the client DVI report.

DVI scale percentile scores represent "degree of severity." Degree of severity is defined for all scales as follows: **Low Risk** (zero to 39th percentile), **Medium Risk** (40th to 69th percentile), **Problem Risk** (70th to 89th percentile), and **Severe Problem** or **Maximum Risk** (90th to 100th percentile).

Standardization data is statistically analyzed where percentile scale scores are derived from obtained scale scores from offender populations. The cumulative distributions of truth-corrected scale scores determine the cut-off scores for each of the four risk range and severity categories. Individual scale score calculations are automatically performed and results are presented in the DVI report numerically (percentile), by attained risk category (narrative) and graphically (DVI profile).

DVI Database: Every time a DVI is scored the test data is automatically stored on the diskette for inclusion in the DVI database. This applies to DVI diskettes used anywhere in the United States and Canada. When the preset number of tests are administered (or used up) on a DVI diskette, the diskette is returned for replacement and the test data contained on these used diskettes is input, in a confidential (no names) manner, into the DVI database for later analysis. This database is statistically analyzed annually, at which time future DVI diskettes are adjusted to reflect demographic changes or trends that might have occurred. This unique and proprietary database also enables the formulation of annual summary reports that are descriptive of the populations tested. Summary reports provide important testing information, for budgeting, planning, management and program description.

Confidentiality (Delete Client Names): Many agencies and programs are rightfully concerned about protecting their client's confidentiality. The proprietary Delete Client Names option is provided to

allow deletion of client names from test diskettes prior to their being returned to Risk & Needs Assessment. This is optional and once the names have been deleted they are gone and cannot be retrieved. Deleting client names does not delete demographic information or test data. It only deletes the client names when the option is used. The option is available at any time and can be used whether the diskette is full or not. Once the client names are deleted there can be no further editing of the client names. This ensures client confidentiality.

DESCRIPTION OF EMPIRICALLY BASED MEASURES OR SCALES

DVI scales were developed from large item pools. Initial item selection was a rational process based upon clearly understood definitions of each scale. Subsequently, items and scales were analyzed for final test selection. The original pool of potential test items was analyzed and the items with the best statistical properties were retained. **Final test and item selection was based on each item's statistical properties**. It is important that users of the DVI familiarize themselves with the definition of each scale. For that purpose a description of each DVI scale follows.

Truthfulness Scale: This scale is a measure of the truthfulness of the client while completing the DVI. Obtained scores are categorized in terms of percentiles and risk levels, i.e., Low Risk, Medium Risk, Problem Risk, and Severe Problem (Maximum Risk).

All interview and self-report information is subject to the dangers of untrue answers due to defensiveness, guardedness or deliberate falsification. The straightforward nature of any self-report questionnaire may appear to some people as intrusive -- giving rise to denial, faking and even distortion. The Truthfulness Scale identifies these self-protective, recalcitrant and guarded people who minimize or even conceal information. It is equally important to establish that the client understood the test items he or she was responding to, and the Truthfulness Scale also helps identify the reading impaired.

The Truthfulness Scale goes beyond establishing the truthfulness of the client. The correlation between the Truthfulness Scale and each other scale has been established, error variance associated with untruthfulness has been identified, and this error variance measure is added back into "truth-corrected" scale scores. **Truth-corrected scale scores are more accurate than raw scores.** A high Truthfulness Scale score (at or above the 90th percentile) invalidates all scale scores.

Alcohol Scale: This empirically based scale is a measure of a person having alcohol related problems. Obtained scores are categorized in terms of percentiles and severity intervention levels (i.e., Non-pathological use, Substance (alcohol/drug) Education, Substance Education Program and AA, NA or CA, Level I Outpatient Treatment, Level II Intensive Outpatient/Partial Hospitalization, Level III and Level IV Intensive Inpatient. An elevated score at or above the 90th percentile identifies dependency and severe problems.

Alcoholism is a significant problem in our society. Woolfolk and Richardson note in their book, "Stress, Sanity and Survival," that alcoholism costs industry over $15.6 billion annually due to absenteeism and medical expenses. And over two decades later these costs have increased substantially. The harm associated with alcohol abuse -- mental, emotional, and physical -- is well documented. The costs associated with alcohol-related problems are staggering.

Alcoholism has been empirically related to arrest records, hospitalizations, illicit substance (drugs) abuse, emotional problems, driving records and stress. Experienced staff are aware of alcoholics' job performance problems, impaired interpersonal relationships and poor stress coping abilities.

It is apparent that most people have been exposed to alcohol in our society. Frequency and magnitude of alcohol use or severity of abuse are important factors. It is important to assess or measure the degree of severity of alcohol abuse, including dependency. This is done with the Alcohol Scale.

Drug Scale: This empirically based scale is a measure of a person having drug abuse related problems. Obtained scores are categorized in terms of percentiles and severity intervention levels (i.e., Non-pathological use, Substance (alcohol/drug) Education, Substance Education Program and AA, NA or CA, Level I Outpatient Treatment, Level II Intensive Outpatient/Partial Hospitalization, Level III and Level IV Intensive Inpatient.

A drug may be broadly defined as any chemical substance that affects living processes. This definition includes alcohol as well as marijuana, cocaine, crack, ice, heroin, opium, amphetamines, barbiturates, LSD, etc. An important distinction between these substances is legality. The major licit (or legal) drugs are caffeine, nicotine and alcohol. They are generally socially approved and legally marketed substances.

Increased public awareness of illicit (or illegal) substance use and abuse as well as its effects on peoples' lives is a growing concern. The burgeoning awareness of marijuana and cocaine abuse is but one example of this concern about illicit substance use and abuse. Since both licit and illicit substances, as discussed herein, are defined as "drugs," correlations between alcohol and drug abuse measures have been shown to exist. To discriminate between these groups in the DVI the licit versus illicit dichotomy is emphasized.

It is apparent that many people have been exposed to drugs in our society. Frequency and magnitude of drug use or abuse are important factors. It is important to assess or measure the degree of severity of drug abuse including dependency. This is done with the Drug Scale.

Control Scale: Control is a two-fold concept: control of others and control of oneself. The concept of control has emerged in domestic violence literature as an important and in some cases a focal issue. Control refers to control of self and others. Some theorists maintain the loss of control can in fact be a way of controlling others. Other theorists emphasize the attitudes and behaviors inherent in control of others. Controlling behaviors vary from swearing and intimidation to battering.

Control is often synonymous with power. Controlling behaviors can represent subtle acts of manipulation, influence and persuasion to gain power over others, or these behaviors can escalate to anger and aggression. There are many techniques of manipulation, influence and persuasion used to advantage in business and political arenas. However, when individuals go beyond these subtle techniques and become aggressive to gain power over others, then the controlling behaviors are deviant. People who lose their sense of power and ability to control others often resort to acts of anger and violence. In its extreme form, control can become an obsession. Power is found through the control of others. Unfortunately, deviant controlling behaviors can lead to serious acts of domestic violence.

Violence Scale: This scale measures the client’s use of physical force to injure, damage, or destroy. It identifies individuals that are dangerous to themselves and others. Obtained scores are categorized in

terms of percentiles and risk levels (i.e., Low Risk, Medium Risk, Problem Risk and Severe Problem (Maximum) Risk).

An ever-present concern when evaluating offenders is lethality or violence potential. Violence is a significant problem in our society. The harm associated with violence--mental, emotional, and physical--is often under-reported by victims and family. And, there are some people who are "violence prone." They are sensitive to perceived criticism, seek revenge, and overtly try to hurt, harm, or even destroy.

Studies such as those conducted at the University of Michigan indicate that drivers can be classified on a risk potential index as safe drivers or high risk drivers by monitoring inappropriate driving behavior such as moving violations, arrests, etc. Mortimer, et al. (1971)[1] concluded that alcoholics were significantly more involved in such offenses. Selzer (1971)[2] concluded in his research that for maximal screening effectiveness, test results and arrest records be used jointly. More recently (1984), the National Council on Alcoholism pointed out that "research results indicate driver's potential for risk-taking behavior may exist independently of his or her use of alcohol, and manifest itself as, aggressive irresponsibility." Continuing (NCA Newsletter, 1984), "positive correlations were found between high-risk groups and a number of other enforcement-related variables. Among these are non-traffic related drinking offenses, violent crimes, social, and fraudulent offenses, non-violent crimes, larceny, etc."

These studies emphasize the importance of a multidimensional approach to assessing aggressiveness-related problems and violence. A person's aggressiveness (e.g., acting out potential) may be related to substance abuse, overall adjustment, emotional problems, traits such as aggressiveness or risk-taking, and stress-coping abilities. Violence may result from aggressiveness taken to a higher or more violent level of physical force, assault and lethality. With these relationships in mind, it is important to explore these areas of inquiry to better understand the substance (alcohol and other drugs) abuser. This is done with the Violence Scale.

Stress Coping Abilities Scale: This empirically based scale is a measure of a person's experienced stress level in comparison to that person's ability to cope with stress. Obtained scores are categorized in terms of percentiles and risk levels (i.e., Low Risk, Medium Risk, Problem Risk and Severe Problem (Maximum Risk).

Stress is an increasingly significant concept in our society. The National Institute for Occupational Safety and Health (NIOSH) recently evaluated the health records of 22,000 workers in 130 organizations. **Their conclusion: stress affects workers in all types of job levels; unskilled laborers are equally susceptible, as are top-line executives.**

How effectively individuals cope with stress determines whether or not stress is a significant factor in their lives. Two concepts, stress and coping abilities dominate the literature on stress. The Stress Coping Abilities Scale includes measures of both of these concepts in its Stress Quotient (SQ) equation. The better an individual's coping skills, compared to their amount of experienced stress, the higher the SQ score. In contrast, if an individual is experiencing more stress than he or she can cope with, the lower the SQ score. **In the DVI profile, Stress Quotient (SQ) scores were inverted to conform to the established risk levels ranging from low to high risk categories.**

Stress exacerbates other symptoms of emotional, attitudinal, interpersonal and substance abuse related problems. Frequency and magnitude of impaired stress coping abilities are important factors in

understanding the substance abuser. **A Stress Coping Abilities Scale score at or above the 90th percentile is typically indicative of a diagnosable mental health problem.** It is important to assess or measure the degree of severity of stress coping ability problems. This is done with the Stress Coping Abilities Scale.

DVI DEVELOPMENT

DVI scales were developed from large item pools. Initial item selection was a rational process based upon clearly understood definitions of each scale. Subsequently, test items and scales were analyzed for scale item inclusion. Final item selection (and inclusion of scale items) was based upon each items statistical properties.

In the beginning, three Ph.D. level psychologists invited experienced staff at several treatment agencies, shelters and batterer programs to share their ideas as to relevant areas of inquiry. This input helped conceptualize the DVI scales. Then, large item pools were developed for each scale. In a series of preliminary studies these item pools were given to people arrested for domestic violence and / or people in treatment for domestic violence. Based upon each items statistical properties, final items were selected. DVI research includes college students, substance abusers, normal (not domestic violence) individuals, participants in domestic violence diversion programs, probationers and domestic violence perpetrators.

Empirically based DVI scales (or measures) were finally developed by statistically relating scale item configurations to known domestic violence offender groups. The DVI was then normed against the identified domestic violence offender population, i.e., people arrested for or convicted of domestic violence. Thus, the DVI has been researched, normed and validated on domestic violence offenders.

RESEARCH STUDIES

The Domestic Violence Inventory (DVI) has been researched and normed on the domestic violence population. Reliability refers to consistency of results regardless of who uses the instrument. DVI results are objective, verifiable and reproducible. The DVI is also practical, economical and accessible. Validity refers to a test measuring what it is purported to measure. The DVI was validated in a series of studies that are summarized in this document. However, it should be emphasized that DVI research is ongoing in nature.

The research which follow has been included in a chronological manner, so that the reader can observe the development of the Domestic Violence Inventory (DVI) into a state-of-the-art domestic violence offender assessment instrument or test. The DVI has been adapted to a DVI-juvenile offender test. And a DVI-Pre-Post version of the DVI was developed for domestic violence offender **outcome** studies.

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[1]Mortimer, R.G., Filkins, L.D., and Lower, J.S. 1971 Court Procedures for identifying problem drinkers: Phase 11 (U.S. Department of Transportation, Report No. HSRI 71-120, HUF-1 1) Ann Arbor, Michigan: University of Michigan Highway Safety Research Institute.

[2]Selzer, M.L 1971. Differential risk among alcoholic drivers. Proceedings of the American Association for Automotive Medicine 14: 107-213.

STRESS QUOTIENT

The Stress Quotient (SQ) or Stress Coping Abilities Scale is based upon the following mathematical equation:

$$SQ = CS/S \times k$$

The Stress Quotient (SQ) scale is a numerical value representing a person's ability to handle or cope with stress relative to their amount of experienced stress. CS (Coping Skill) refers to a person's ability to cope with stress. S (Stress) refers to experienced stress. k (Constant) represents a constant value in the SQ equation to establish SQ score ranges. The SQ includes measures of both stress and coping skills in the derivation of the Stress Quotient (SQ) score. The better an individual's coping skills, compared to the amount of experienced stress, the higher the SQ score.

The Stress Quotient (SQ) scale equation represents empirically verifiable relationships. The SQ scale (and its individual components) lends itself to research. Nine studies were conducted to investigate the validity and reliability of the Stress Quotient or Stress Coping Abilities Scale.

Validation Study 1: This study was conducted (1980) to compare SQ between High Stress and Low Stress groups. The High Stress group (N=10) was comprised of 5 males and 5 females. Their average age was 39. Subjects for the High Stress group were randomly selected from outpatients seeking treatment for stress. The Low Stress group (N=10) was comprised of 5 males and 5 females (average age 38.7) randomly selected from persons not involved in treatment for stress. High Stress group SQ scores ranged from 32 to 97, with a mean of 64.2. Low Stress group SQ scores ranged from 82 to 156, with a mean of 115.7. The t-test statistical analysis of the difference between the means of the two groups indicated that the High Stress group had significantly higher SQ scores than the Low Stress group ($t = 4.9$, $p < .001$). This study shows that the SQ or Stress Coping Abilities Scale is a valid measure of stress coping. The Stress Coping Abilities Scale significantly discriminates between high stress individuals and low stress individuals.

Validation Study 2: This study (1980) evaluated the relationship between the SQ scale and two criterion measures: Taylor Manifest Anxiety Scale and Cornell Index. These two measures have been shown to be valid measures of anxiety and neuroticism, respectively. If the SQ or Stress Coping Abilities Scale is correlated with these measures it would indicate that the SQ or Stress Coping Abilities Scale is a valid measure. In the Taylor Manifest Anxiety Scale, high scores indicate a high level of anxiety. Similarly, in the Cornell Index high scores indicate neuroticism. Negative correlation coefficients between the two measures and the SQ were expected because high SQ scores indicate good stress coping abilities. The three tests were administered to forty-three (43) subjects selected from the general population. There were 21 males and 22 females ranging in age from 15 to 64 years. Utilizing a product-moment correlation, SQ scores correlated -.70 with the Taylor Manifest Anxiety Scale and -.75 with the Cornell Index. Both correlations were significant, in the predicted direction, at the $p < .01$ level. These results support the finding that the Stress Coping Abilities Scale is a valid measure of stress coping abilities. The reliability of the SQ was investigated in ten subjects (5 male and 5 female) randomly chosen from this study. A split-half correlation analysis was conducted on the SQ items. The product-moment correlation coefficient (r) was .85, significant at the $p < .01$ level. This correlation indicates that the SQ or Stress Coping Abilities Scale is a reliable measure. These results support the Stress Coping Abilities Scale as a reliable and valid measure.

Validation Study 3: In this study (1981) the relationship between the SQ Scale and the Holmes Rahe Social Readjustment Rating Scale (SRRS) was investigated. The SRRS, which is comprised of a self-rating of stressful life events, has been shown to be a valid measure of stress. Three correlation analyses were done. SRRS scores were correlated with SQ scores and separately with two components of the SQ scale: Coping Skill (CS) scores and Stress (S) scores. It was hypothesized that the SQ and SRRS correlation would be negative, since subjects with lower SQ scores would be more likely to either encounter less stressful life events or experience less stress in their lives. It was also predicted that subjects with a higher CS would be less likely to encounter stressful life events, hence a negative correlation was hypothesized. A positive correlation was predicted between S and SRRS, since subjects experiencing more frequent stressful life events would reflect more experienced stress. The participants in this study consisted of 30 outpatient psychotherapy patients. There were 14 males and 16 females. The average age was 35. The SQ and the SRRS were administered in counterbalanced order. The results showed there was a significant positive correlation (product-moment correlation coefficient) between SQ and SRRS ($r = .4006$, $p<.01$). The correlation results between CS and SRRS was not significant ($r = .1355$, n.s.). There was a significant positive correlation between S and SRRS ($r = .6183$, $p<.001$). The correlations were in predicted directions. The significant correlations between SQ and SRRS as well as S and SRRS support the construct validity of the SQ or Stress Coping Abilities Scale.

Validation Study 4: This validation study (1982) evaluated the relationship between factor C (Ego Strength) in the 16 PF Test as a criterion measure and the SQ in a sample of juveniles. High scores on factor C indicate high ego strength and emotional stability, whereas high SQ scores reflect good coping skills. A positive correlation was predicted because emotional stability and coping skills reflect similar attributes. The participants were 34 adjudicated delinquent adolescents. They ranged in age from 15 to 18 years with an average age of 16.2. There were 30 males and 4 females. The Cattell 16 PF Test and the SQ scale were administered in counterbalanced order. All subjects had at least a 6.0 grade equivalent reading level. The correlation (product-moment correlation coefficient) results indicated that Factor C scores were significantly correlated with SQ scores ($r = .695$, $p<.01$). Results were significant and in the predicted direction. These results support the SQ or Stress Coping Abilities Scale as a valid measure of stress coping abilities in juvenile offenders.

In a subsequent study the relationship between factor Q4 (Free Floating Anxiety) on the 16 PF Test and S (Stress) on the SQ scale was investigated. High Q4 scores reflect free floating anxiety and tension, whereas high S scores measure experienced stress. A high positive correlation between Q4 and S was predicted. There were 22 of the original 34 subjects included in this analysis since the remainder of the original files were unavailable. All 22 subjects were male. The results indicated that Factor Q4 scores were significantly correlated (product-moment correlation coefficient) with S scores ($r = .584$, $p<.05$). Results were significant and in predicted directions. The significant correlations between factor C and SQ scores as well as factor Q4 and S scores support the construct validity of the SQ scale.

Validation Study 5: Psychotherapy outpatient clients were used in this validation study (1982) that evaluated the relationship between selected Wiggin's MMPI (Minnesota Multiphasic Personality Inventory) supplementary content scales (ES & MAS) as criterion measures and the SQ scale. ES measures ego strength and MAS measures manifest anxiety. It was predicted that the ES and SC correlation would be positive, since people with high ego strength would be more likely to possess good coping skills. Similarly, it was predicted that MAS and S correlations would be positive, since people experiencing high levels of manifest anxiety would also likely experience high levels of stress. The subjects were 51 psychotherapy outpatients ranging in age from 22 to 56 years with an average age

of 34. There were 23 males and 28 females. The MMPI and the SQ were administered in counterbalanced order. The correlation (product-moment correlation coefficient) results indicated that ES and CS were positively significantly correlated ($r = .29$, $p<.001$). MAS and S comparisons resulted in an r of .54, significant at the $p < .001$ level. All results were significant and in predicted directions.

In a related study (1982) utilizing the same population data (N=51) the relationship between the Psychasthenia (Pt) scale in the MMPI and the S component of the SQ scale was evaluated. The Pt scale in the MMPI reflects neurotic anxiety, whereas the S component of the SQ scale measures stress. Positive Pt and S correlations were predicted. The correlation (product-moment correlation coefficient) results indicated that the Pt scale and the S component of the SQ scale were significantly correlated ($r = .58$, $p<.001$). Results were significant and in the predicted direction. The significant correlations between MMPI scales (ES, MAS, Pt) and the SQ scale components (CS, S) support the construct validity of the SQ or Stress Coping Abilities Scale.

Reliability Study 6: The reliability of the Stress Quotient (SQ) or Stress Coping Abilities Scale was investigated (1984) in a population of outpatient psychotherapy patients. There were 100 participants, 41 males and 59 females. The average age was 37. The SQ was administered soon after intake. The most common procedure for reporting inter-item (within test) reliability is with Coefficient Alpha. The reliability analysis indicated that the Coefficient Alpha of 0.81 was highly significant ($F = 46.74$, $p<.001$). Highly significant inter-item scale consistency was demonstrated.

Reliability Study 7: (1985) The reliability of the Stress Quotient (SQ) or Stress Coping Abilities Scale was investigated in a sample of 189 job applicants. There were 120 males and 69 females with an average age of 31. The SQ was administered at the time of pre-employment screening. The reliability analysis indicated that the Coefficient Alpha of 0.73 was highly significant ($F = 195.86$, $p<.001$). Highly significant Cronbach Coefficient Alpha reveals that all SQ scale items are significantly ($p<.001$) related and measure one factor or trait.

Validation Study 8: Chemical dependency inpatients were used in a validation study (1985) to determine the relation between MMPI scales as criterion measures and the Stress Quotient (SQ) Scale or Stress Coping Abilities Scale. The SQ is inversely related to other MMPI scales, consequently, negative correlations were predicted. The participants were 100 chemical dependency inpatients. There were 62 males and 38 females with an average age of 41. The SQ and the MMPI were administered in counterbalanced order. The reliability analysis results indicated that the Coefficient Alpha of 0.84 was highly significant ($F = 16.20$, $p<001$). Highly significant inter-item scale consistency was demonstrated.

The correlation (product-moment correlation coefficient) results between the Stress Quotient (SQ) and selected MMPI scales were significant at the $p < .001$ level and in predicted directions. The SQ correlation results were as follows: Psychopathic Deviate (-0.59), Psychasthenia (-.068), Social Maladjustment (-0.54), Authority Conflict (-0.46), Taylor Manifest Anxiety Scale (-0.78), Authority Problems (-0.22), and Social Alienation (-0.67). The most significant SQ correlation was with the Taylor Manifest Anxiety Scale. As discussed earlier, stress exacerbates symptoms of impaired adjustment as well as emotional and attitudinal problems. These results support the Stress Quotient or Stress Coping Abilities Scale as a valid measure of stress coping abilities.

Validation Study 9: In a replication of earlier research, a study (1986) was conducted to further evaluate the reliability and validity of the Stress Quotient (SQ). The participants were 212 inpatients in

chemical dependency programs. There were 122 males and 90 females with an average age of 44. The SQ and MMPI were administered in counterbalanced order. Reliability analysis of the SQ scale resulted in a Coefficient Alpha of 0.986 ($F = 27.77$, $p<.001$). Highly significant inter-item scale consistency was again demonstrated. Rounded off, the **Coefficient Alpha for the SQ was 0.99**.

In the same study (1986, inpatients), product-moment correlations were calculated between the Stress Quotient (SQ) and selected MMPI scales. The SQ correlated significantly (.001 level) with the following MMPI scales: Psychopathic Deviate (Pd), Psychasthenia (Pt), Anxiety (A), Manifest Anxiety (MAS), Ego Strength (ES), Social Responsibility (RE), Social Alienation (PD4A), Social Alienation (SC1A), Social Maladjustment (SOC), Authority Conflict (AUT), Manifest Hostility (HOS), Suspiciousness/Mistrust (TSC-II), Resentment/Aggression (TSC-V) and Tension/Worry (TSC-VII). **All SQ correlations with selected MMPI scales were significant (at the .001 level of significance) and in predicted directions.** These results support the SQ scale or Stress Coping Abilities Scale as a valid measure of stress coping abilities.

The studies cited above demonstrate empirical relationships between the SQ scale (Stress Coping Abilities Scale) and other established measures of stress, anxiety and coping skills. This research demonstrates that the Stress Quotient (SQ) or Stress Coping Abilities Scale is a reliable and valid measure of stress coping abilities. The SQ has high inter-item scale reliability. The SQ also has high concurrent (criterion-related) validity with other recognized and accepted tests. The SQ scale permits objective (rather than subjective) analysis of the interaction of these important variables. In the research that follows, the **Stress Quotient** or **SQ** is also referred to as the **Stress Coping Abilities Scale**.

DVI RESEARCH

DVI research studies are reported chronologically (as they were done). Consequently the most recent DVI research is presented under the most recent years. Over time DVI statistical properties (reliability, validity and accuracy) continue to improve. Thus, the studies represented herein represent the evolution of the DVI into a state-of-the-art domestic violence offender assessment instrument.

Early in its development the Domestic Violence Inventory (DVI) was administered to normals (by definition not domestic violence perpetrators), college students, substance abuse patients, inmates and Municipal Court defendants. The DVI does differentiate between "normals" and domestic violence offenders. And, scale scores correlate well with other tests measuring similar behaviors.

10. Validation of the Truthfulness Scale

The Truthfulness Scale in the DVI is an important psychometric scale as these scores establish how truthful the respondent was while completing the DVI. Truthfulness Scale scores determine whether or not DVI profiles are accurate and are integral to the calculation of Truth-Corrected DVI scale scores.

The Truthfulness Scale identifies respondents who were self-protective, recalcitrant and guarded, as well as those who minimized or even concealed information while completing the test. Truthfulness Scale items are designed to detect respondents who try to fake good or put themselves into a favorable light. These scale items are statements about oneself that most people would agree to. The following

statement is an example of a Truthfulness Scale item, “Sometimes I worry about what others think or say about me.”

This preliminary study used the 21 Truthfulness Scale items in the DVI to determine if these Truthfulness Scale items could differentiate between respondents who were honest from those trying to fake good. It was hypothesized that the group trying to fake good would score higher on the Truthfulness Scale than the group instructed to be honest.

Method

Seventy-eight Arizona State University college students (1985) enrolled in an introductory psychology class were randomly assigned to one of two groups. Group 1 comprised the “Honest” group and Group 2 comprised the “Fakers” group. Group 1 was instructed to be honest and truthful while completing the test. Group 2 was instructed to "fake good" while completing the test, but to respond "in such a manner that their faking good would not be detected." The test, which included the DVI Truthfulness Scale, was administered to the subjects and the Truthfulness Scale was embedded in the test as one of the six scales. Truthfulness Scale scores were made up of the number of deviant answers given to the 21 Truthfulness Scale items.

Results

The mean Truthfulness Scale score for the Honest group was 2.71 and the mean Truthfulness Scale score for Fakers was 15.77. The results of the correlation (product-moment correlation coefficient) between the Honest group and the Fakers showed that the Fakers scored significantly higher on the Truthfulness Scale than the Honest group ($r = 0.27$, $p < .05$).

The Truthfulness Scale successfully measured how truthful the respondents were while completing the test. The results of this study reveals that the Truthfulness Scale accurately detects "Fakers" from those students that took the test honestly.

11. Validation of Four DVI Scales using Criterion Measures

In general terms, a test is valid if it measures what it is supposed to measure. The process of confirming this statement is called validating a test. A common practice when validating a test is to compute a correlation between it and another (criterion) test that purports to measure the same thing and that has been previously validated. For the purpose of this study, the four DVI scales (Truthfulness, Alcohol, Drug, Stress Coping Abilities) were validated with comparable scales on the Minnesota Multiphasic Personality Inventory (MMPI). The MMPI was selected for this validity study because it is the most researched, validated and widely used objective personality test in the United States. The DVI scales were validated with MMPI scales as follows. The Truthfulness Scale was validated with the L Scale. The Alcohol Scale was validated with the MacAndrew Scale and Psychopathic Deviant Scale. The Drug Scale was validated with the MacAndrew and Psychopathic Deviant Scale. The Stress Coping Abilities Scale was validated with the Taylor Manifest Anxiety, Psychasthenia, Social Maladjustment and Social Alienation scales or measures.

Method

One hundred (100) chemical dependency inpatients (1985) were administered both the DVI scales and the MMPI. Tests were counterbalanced for order effects -- half were given the DVI scales first and half the MMPI first.

Results and Discussion

Product-moment correlation coefficients were calculated between DVI scales and MMPI scales. These results are summarized in Table 1. The correlation results presented in Table 1 show that all DVI scales significantly correlated (.001 level of significance) with all represented MMPI scales. In addition, all correlations were in predicted directions.

Table 1. (1985) Product-moment correlations between MMPI scales and DVI scales

MMPI SCALES	DVI SCALES (MEASURES)			
	Truthfulness	**Alcohol**	**Drug**	**Stress Coping**
L (Lie) Scale	0.72	-0.38	-0.41	0.53
Psychopathic Deviant	-0.37	0.52	0.54	-0.59
Psychasthenia	-0.34	0.38	0.41	-0.68
Social Maladjustment	-0.25	0.34	0.26	-0.54
Authority Conflict	-0.43	0.31	0.47	-0.46
Manifest Hostility	-0.45	0.34	0.47	-0.58
Taylor Manifest Anxiety	-0.58	0.47	0.46	-0.78
MacAndrew	-0.40	0.58	0.62	-0.33
Social Alienation	-0.47	0.35	0.45	-0.67

NOTE: All correlations were significant at $p < .001$.

The **Truthfulness Scale** correlates significantly with all of the represented MMPI scales in Table 1. Of particular interest is this scale's highly significant positive correlation with the MMPI Lie (L) Scale. A high L Scale score on the MMPI invalidates other MMPI scale scores due to untruthfulness. This helps in understanding why the Truthfulness Scale is significantly, but negatively, correlated with the other represented MMPI scales. Similarly, the MMPI L Scale correlates significantly, but negatively, with the other DVI scales.

The **Alcohol Scale** correlates significantly with all represented MMPI scales. This is consistent with the conceptual definition of the Alcohol Scale and previous research that has found that alcohol abuse is associated with mental, emotional and physical problems. Of particular interest are the highly significant correlations with the MacAndrew ($r = 0.58$) Scale and the Psychopathic Deviant ($r = 0.52$) Scale. High MacAndrew and Psychopathic Deviant scorers on the MMPI are often found to be associated with substance abuse. Similarly, the **Drug Scale** correlates significantly with the MacAndrew ($r = 0.62$) Scale and the Psychopathic Deviant ($r = 0.54$) Scale.

The **Stress Coping Ability Scale** is inversely related to MMPI scales which accounts for the negative correlations shown in Table 1. The positive correlation with the L scale on the MMPI was discussed earlier, i.e., Truthfulness Scale. It should be noted that stress exacerbates symptoms of impaired adjustment and even psychopathology. The Stress coping Ability Scale correlates most significantly with the Taylor Manifest Anxiety ($r = -0.78$) Scale, the Psychasthenia ($r=-0.68$) Scale and the Social Alienation ($r=-0.67$) Scale.

These findings strongly support the validity of DVI scales. All of the DVI scales were highly correlated with the MMPI criterion scale they were tested against. The large correlation coefficients support the validity of the DVI. All product-moment correlation coefficients testing the relation between DVI scales and MMPI scales were significant at the $p < .001$ level.

12. Relationships Between Selected DVI Scales and Polygraph Examination

A measure that has often been used in business or industry for employee selection is the Polygraph examination. The polygraph exam is most often used to determine the truthfulness or honesty of an individual while being tested. The Polygraph examination is more accurate as the area of inquiry is more "situation" specific. Conversely, the less specific the area of inquiry, the less reliable the Polygraph examination becomes.

Three DVI scales were chosen for this study; Truthfulness Scale, Alcohol Scale and Drug Scale. The Truthfulness Scale was chosen because it is used in the DVI to measure the truthfulness or honesty of the respondent while completing the DVI. The Alcohol and Drug scales are well suited for comparison with the polygraph exam because of the situation specific nature of the scales. Alcohol and Drug scale items are direct and relate specifically to alcohol and drug use. The comparison with Truthfulness Scale is less direct because of the subtle nature of the Truthfulness Scale items as used in the DVI. The Truthfulness Scale is affected by the respondent's attitude, emotional stability and tendencies to fake good. It was expected that the Alcohol and Drug scales would be highly correlated with the polygraph results and the Truthfulness Scale would show a somewhat less but nonetheless significant correlation.

Method

One hundred and eighty-nine (189) job applicants (1985) were administered both the DVI scales and the Polygraph examination. Tests were given in a counterbalanced order, half of the applicants were given the DVI scales first and the other half of the applicants were administered the polygraph first. The subjects were administered the DVI scales and polygraph exam in the same room in the same session with the examiner present for both tests.

Results

The product-moment correlation results between the Polygraph exam and DVI scales indicated there was a significant positive correlation between the Truthfulness Scale and Polygraph exam ($r = 0.23$, $p<.001$). Similarly, significant positive relationships were observed between the Polygraph exam and the Alcohol Scale ($r = 0.54$, $p<.001$) and the Drug Scale ($r = 0.56$, $p<.001$).

In summary, this study supports the validity of the DVI Truthfulness, Alcohol and Drug scales. There were strong positive relationships between the selected DVI scales and the Polygraph examination. The highly significant product-moment correlations between DVI scales and Polygraph examinations demonstrates the validity of the DVI Truthfulness, Alcohol and Drug Abuse measures.

These results are important because the Polygraph exam is a direct measure obtained from the individual being tested rather than a rating by someone else. This is similar to self-report such as utilized in the DVI. The fact that there was a very strong relationship between Polygraph results and DVI scales shows that this type of information can be obtained accurately in self-report instruments.

These results indicate that the DVI Truthfulness Scale is an accurate measure of the respondent's truthfulness or honesty while completing the DVI. The Truthfulness Scale is an essential measure in

self-report instruments. There must be a means to determine the honesty or "correctness" of the respondents answers and there must be a means to adjust scores when the respondent is less than honest. The DVI Truthfulness Scale addresses both of these issues. The Truthfulness Scale measures truthfulness and then applies a correction to other scales based on the Truthfulness Scale score. The Truthfulness Scale ensures accurate assessment. The results of this study shows that the DVI is a valid assessment instrument.

13. Validation of DVI Scales in a Sample of Substance Abuse Inpatients

The DVI is a domestic violence offender assessment instrument and contains measures of chemical dependency and substance (alcohol and other drugs) abuse. It is designed for use in intake-referral settings, court-related assessments, diversion programs and probation departments. The DVI is a specific test designed for a specific population. The present study (1987) was conducted to validate the DVI scales in a sample of substance abuse inpatients in a chemical dependency facility.

Selected scales in the Minnesota Multiphasic Personality Inventory (MMPI) were used as criterion measures for the different DVI scales. The Truthfulness Scale was validated with MMPI L Scale, F Scale and K Scale. The Alcohol Scale was validated with MMPI MacAndrew Scale (MAC) and Psychopathic Deviate-Obvious (PD-O). The Drug Scale was validated with MMPI MacAndrew Scale and Psychopathic Deviate-Obvious. The Stress Coping Abilities Scale was validated with MMPI Psychasthenia (PT), Anxiety (A), Taylor Manifest Anxiety (MAS) and Tension/Worry (TSC-VII). The MMPI scales were chosen to compare to the DVI scales because they measure similar attributes.

Method

The subjects used in the study were 212 substance (alcohol and other drugs) abuse inpatients in chemical dependency facilities. The DVI and MMPI scales were administered in counterbalanced order.

Results and Discussion

The product-moment correlation results are summarized in Table 2. Since this study is important in understanding DVI validity, each DVI scale is briefly summarized below. (N=212):

The **Truthfulness Scale** correlates significantly in predicted directions with selected MMPI criterion scales, L Scale (lie, $p<.001$), F Scale (validity, $p<.001$) and K Scale (validity correction, $p<.001$). Other significant correlations with traditional MMPI scales include: PD (Psychopathic deviate, $p<.001$), ES (Ego Strength, $p<.001$), and RE (Social responsibility, $p< .001$); Harris MMPI subscales: PD2 (Authority Problems, $p<.001$), PD4 (Social Alienation, $p<.001$), SCIA (Social Alienation, $p<.001$); Wiggins MMPI content scales: SOC (Social Maladjustment, $p<.001$), HOS (Manifest Hostility, $p<.001$); Wiener-Harmon MMPI subscales: PDO (Psychopathic Deviant-Obvious, $p<.001$); Tryon, Stein & Chu MMPI cluster scales: TSC-V (Resentment/Aggressive, $p<.001$).

The **Alcohol Scale** correlates significantly in predicted directions with selected MMPI criterion scales: MAC (MacAndrew scale, $p<.001$), and PD-O (Psychopathic Deviate Obvious, $p<.021$). The **Drug Scale** correlates significantly in predicted directions with selected MMPI criterion scales: MAC (MacAndrew scale, $p<.001$), and PD-O (Psychopathic Deviate Obvious, $p<.001$).

The **Stress Coping Abilities Scale** correlates significantly in predicted directions with selected MMPI criterion scales: PT (Psychasthenia, p<.001), A (Anxiety, p<.001), MAS (Taylor Manifest Anxiety, p<.001), PD4 (Social Alienation, p<.001) and TSC-VII (Tension/Worry, p<.001).

Table 2. DVI-MMPI Product-moment Correlations (1987)
Inpatients, Chemical Dependency Facilities (N = 212)

MMPI SCALES	DVI SCALES (MEASURES)			
	Truthfulness	Alcohol	Drug	Stress Coping
L	0.60	-0.24	-0.15	-0.30
F	-0.34	0.32	0.32	0.49
K	0.39	-0.28	-0.29	-0.51
MAC	-0.30	0.35	0.37	0.28
PD-O	-0.35	0.22	0.33	0.53
PD2	-0.26	0.18	0.17	0.07
PD	-0.33	0.21	0.33	0.39
HOS	-0.45	0.25	0.33	0.46
TSC-V	-0.46	0.34	0.28	0.58
ES	0.25	-0.27	-0.25	-0.51
RE	0.41	-0.27	-0.34	-0.45
SOC	-0.19	0.17	0.08	0.39
PD4	-0.41	0.20	0.28	0.55
SCIA	-0.36	0.27	0.32	0.39
PT	-0.39	0.27	0.24	0.58
A	-0.41	0.31	0.31	0.68
MAS	-0.44	0.25	0.18	0.65
TSC-VII	-0.41	0.33	0.29	0.66

These findings strongly support the validity of the DVI scales in this sample of chemical dependency inpatients. All of the DVI scales were highly correlated with the MMPI criterion scales they were tested against. The large correlation coefficients support the DVI as a valid instrument for assessment of substance abuse. Inpatients in chemical dependency facilities are known to have substance abuse problems and these correlation results confirm the validity of the instruments. These findings, then support the validity of the DVI.

The DVI Alcohol and Drug scales are direct measures of alcohol and drug use and abuse, respectively, whereas the MacAndrew Scale was developed from discriminant analysis and does not include a truthfulness scale. The MacAndrew Scale items do not relate specifically to alcohol and drugs. Hence, the correlations between the MacAndrew Scale and the Alcohol and Drug scales could be affected by

the lack of a truthfulness measure which is a deficiency of the MacAndrew Scale. However, the correlation coefficients were significant.

Where MMPI scales are closely related (by definition) to DVI scales the correlation coefficients were highly significant. For example, the DVI Truthfulness Scale and the MMPI L Scale both measure tendencies to fake good, and the correlation was very highly significant at r = .60. The correlation between Resistance Scale and MMPI Social Responsibility Scale was r = -.88, and the correlation between Stress Coping Abilities Scale and MMPI Tension/Worry Scale was r = -.66. This study supports the validity of the DVI.

14. Reliability Study of the DVI in Two Samples of Domestic Violence Defendants

Any approach to detection, assessment, or measurement must meet the criteria of reliability and validity. Reliability refers to an instrument's consistency of results regardless of who uses it. This means that the outcome must be objective, verifiable, and reproducible. Ideally, the instrument or test must also be practical, economical, and accessible. Psychometric principles and computer technology insures accuracy, objectivity, practicality, cost-effectiveness and accessibility.

In 1991 research on the DVI was begun in earnest. This study (1991) was conducted to test the reliability of the DVI scales in two different samples of domestic violence defendants. Within-test reliability measures to what extent a test with multiple scales measuring different factors, measures each factor independent of the other factors (scales) in the test. It also measures to what extent items in each scale consistently measure the particular trait (or factor) that scale was designed to measure. Within-test reliability measures are referred to as inter-item reliability. The most common method of reporting within-test (scale) inter-item reliability is with coefficient alpha.

Method

There were two samples of domestic violence defendants included in this study (1991). **The subjects in Group 1 consisted of 168 domestic violence defendants.** There were 158 (94%) males, and 10 (6.0%) females. The demographic composition of this sample is summarized as follows: Age: 16 to 20 years (7.1%); 21 to 25 years (16.1%); 26 to 30 years (25.6%); 31 to 35 years (22.6%); 36 to 40 years (14.3%); 41 to 45 years (6.5%); 46 to 50 years (3.6%); 51 to 55 years (2.4%); and 56 to 60 years (1.8%). Ethnicity: Caucasian (97%) and Black (3.1%). Education: 8th Grade or less (12.5%); Some High School (38.7%); G.E.D. (5.4%); High School Graduate (36.3%); Some College (4.8%); Technical/Business School (1.2%); College Graduate (0.6%); and Professional/Graduate School (0.6%). Marital Status: Single (17.3%); Married (42.9%); Divorced (25.6%); and Separated (14.3%).

Group 2 consisted of 525 domestic violence defendants. There were 416 (79.2%) males and 109 (20.8%) females. Age: 18 to 20 (16.9%); 21 to 25 (17.1%); 26 to 30 (21.1%); 31 to 35 (17.1%); 36 to 40 (15.2%); 41 to 45 (7.4%); 46 to 50 (2.3%); 51 to 55 (1.3%); 56 to 60 (1.0%); 60 to 65 (0.4%). Ethnicity: Caucasian (65.3%); Black (23.2%); Hispanic (9.3%); Asian (0.4%); American Indian (1.3%) and Other (0.4%). Education: 8th Grade or less (7.1%); Some High School (29.2%); G.E.D. (5.9%); High School Graduate (37.4%); Some College (14.7%); Technical/Business School (0.2%); College Graduate (4.4%); Professional/Graduate School (1.1%); and Missing (0.2%). Marital Status: Single (50.6%); Married (35.7%); Divorced (6.5%); Separated (7.3%); and Missing (0.2%).

Reliability coefficient alphas are presented in Table 3.

Table 3. Reliability coefficient alphas. Domestic violence defendants. (1991, N = 693)

All coefficient alphas are significant at p<.001.

DVI Scales	1 D.V. Defendants N = 168	2 D.V. Defendants N = 525
Truthfulness Scale	.85	.85
Aggressivity Scale	.83	.84
Alcohol Scale	.92	.89
Drug Scale	.89	88
Violence Scale	.83	84
Stress Coping Abilities	.91	.91

The results of this study support the reliability (internal consistency) of the DVI. All coefficient alphas are significant at p<.001. All scale reliability coefficients attained very high levels. These results show that the DVI is a reliable domestic violence defendant risk assessment instrument.

15. Validation Study of DVI Scales Using SAQ-Adult Probation Scales as Criterion Measures

A study was conducted in 1991 that was designed to examine relationships (correlations) between the Domestic Violence Inventory (DVI) scales and the SAQ-Adult Probation (SAQ) scales on an incarcerated male prison inmate population. This was a concurrent validity study. The SAQ contains six measures: Truthfulness, Alcohol, Drug, Aggressivity, Resistance and Stress Coping Abilities. Four of these scales are similar to DVI scales. Similar or comparable scales include the Truthfulness Scale, Alcohol Scale, Drug Scale and the Stress Coping Abilities Scale. The SAQ has been demonstrated to be a valid, reliable and accurate assessment instrument for evaluation of prison inmates.

Although the scales designated Truthfulness, Alcohol, and Drug are independent and differ in the DVI and SAQ, they were designed to measure similar behaviors or traits. Thus, although essentially composed of different test questions in the DVI and SAQ test booklets, these comparable measures or scales do have similarity. The Stress Coping Abilities Scale in both DVI and SAQ contains the same test items.

Method

The SAQ and DVI were administered in group settings to 153 male inmates in counterbalanced order. Of these 153 inmates, 97 were Caucasian, 25 Hispanic, 17 Black, 13 American Indian and 1 other ethnicity. Four age categories were included (number of subjects is given in parentheses): 16 to 25 years (25), 26 to 35 (76), 36 to 45 (37) and 46 to 60 (15). Six educational levels were included: 8th Grade or less (6), Partially Completed High School (49), High School Graduate (69), Partially Completed College (17), College Graduate (10), and Professional/Graduate School (2).

The results of this study demonstrate the relationship between similar SAQ and DVI scales. Product-moment correlation coefficients were computed between corresponding scales. Correlation coefficients are summarized in Table 4.

Table 4. Product-moment correlations. (1991, N = 153)

SAQ versus DVI Scales	Agreement Coefficients	Significant Level
Truthfulness	.641	P<.001
Alcohol Scale	.349	P<.001
Drug Scale	.338	P<.001
Stress Coping	.764	P<.001

The results of this study show that all comparable SAQ and DVI scales are highly significantly correlated (p<.001). These tests had no bearing on inmate status or sentences, and participation was voluntary. This concurrent validity study supports the validity of the DVI. It should be noted that the Stress Coping Abilities Scale is the same in the SAQ and DVI.

16. Reliability Study of the DVI in Two Samples of Domestic Violence Offenders

The original version of the DVI contained 193 test items. Database research enabled statistical reliability analysis of each scale item. On the basis of this reliability research, only test items with the best statistical properties were retained. The early version of the DVI was revised into a more efficient 170 item test. The new DVI version also has a sixth grade reading level. The revised 170 item DVI replaced the earlier 193 item version in 1992.

This study (1992) was conducted to test the reliability (internal consistency) of the revised DVI scales in two samples of domestic violence offenders. All respondents (N = 729) were convicted domestic violence offenders.

Method

There were two samples of domestic violence offenders who participated in the study (1992). Group 1 consisted of 153 domestic violence offenders. There were 141 males (92%) and 12 females (8%). This sample is described as follows: Age: Under 18 (45.1%); 18 to 25 (17.6%); 26 to 35 (25.5%); 36 to 45 (6.5%); 46 to 55 (3.3%); and over 55 (2.0%). Ethnicity: Caucasian (42.5%); Black (8.5%); Hispanic (32.0%); Asian (5.2%); American Indian (0.7%), and Other (11.1%). Education: 8th Grade or less (2.0%); Some High School (5.9%); G.E.D. (4.6%); High School Graduate (73.2%); Some College (7.8%); Technical/Business School (1.3%); and College Graduate (5.2%). Marital Status: Single (45.1%); Married (43.8%); Divorced (4.6%); Separated (5.9%); and Widowed (0.7%).

Group 2 consisted of 576 adjudicated domestic violence offenders. Of these 576 offenders, 489 were male (84.9%) and 87 were female (15.1%). This sample is described as follows: Age: Under 18 (17.7%); 18 to 25 (28.6%); 26 to 35 (33.0%); 36 to 45 (14.9%); 46 to 55 (4.2%); over 55 (1.6%). Ethnicity: Caucasian (62.3%), Black (15.6%); Hispanic (15.8%); Asian (1.9%); American Indian

(0.7%); and Other (3.6%). Education: 8th Grade or less (8.3%); Some High School (24.5%); G.E.D. (3.6%); High School Graduate (46.7%); Some College (11.6%); Technical/Business School (0.5%); College Graduate (3.8%); and Graduate/Professional Degree (0.9%). Marital Status: Single: (46.0%); Married (38.0%); Divorced (5.9%); Separated (9.0%); Widowed (1.0%).

Coefficient alpha is considered an important indicator of internal consistency or reliability. These coefficients are reported in Table 5. The total number of domestic violence offenders included this study was 729.

Table 5. Reliability coefficient alphas. (1992, N = 729)
All coefficient alphas are significant at p<.001.

Scales	1 D.V. Offenders N = 153	2. D.V. Offenders N = 576
Truthfulness Scale	.85	.86
Aggressivity Scale	.84	.88
Alcohol Scale	.93	.92
Drug Scale	.92	.89
Violence Scale	.81	.86
Stress Coping Abilities	.90	.92

The results of this study demonstrate the reliability (internal consistency) of the revised version of the DVI. The number of test items was reduced by retaining the best-of-the-best items from the previous version. These results show that the inter-item reliability coefficients of the different scales maintained high significance levels across the two samples of domestic violence offenders included in the study. These results strongly supports the reliability of the DVI.

17. Reliability of the DVI and Sex Differences in Domestic Violence Offenders

Reliability continued to be studied across different samples of domestic violence offenders around the United States and Canada. Consistently high reliability statistics have been found. Because sex differences were found in other assessment instruments, it was decided to test for sex differences in the Domestic Violence Inventory. For the most part, the domestic violence offenders that have studied have been primarily male with only a very small percentage of offenders being female. The purpose of the present study was to test for sex differences in the different DVI scales among domestic violence offenders.

There were two samples of domestic violence offenders included in the present study (1993), but because the two samples were from different regions of the US the DVI databases were kept separate. There were a total of 269 domestic violence offenders included in the study.

Method

There were two samples of domestic violence offenders included in this study (1993). The group contained 152 domestic violence offenders and the second group contained 117 offenders. The

demographic composition of group 1 was as follows: There were 152 offenders, 137 were male and 15 were female. Age: 16 to 25 (35.3%); 26 to 35 (35.3%); 36 to 45 (23.5%); 46 to 55 (3.8%); over 55 (2.0%). Ethnicity: Caucasian (56.2%); Black (42.5%); Hispanic (1.3%). Education: 8th Grade or less (6.5%); Some High School (26.8%); G.E.D. (4.6%); High School Graduate (35.9%); Some College (17.6%); College Graduate (5.9%); Graduate/Professional Degree (2.6%). Marital Status: Single (51.6%); Married (30.1%); Divorced (3.9%); Separated (13.7%); and Widowed (0.7%).

Group 2 consisted of 117 domestic violence diversion program participants, 87 (74%) were male and 30 (26%) were female. The demographic composition of this sample was as follows: Age: 18 to 25 (25.6%); 26 to 35 (48.7%); 36 to 45 (17.1%); 46 to 55 (6.8%); and over 55 (1.7%). Ethnicity: Caucasian (63.2%); Black (4.3%); Hispanic (27.4%); Asian (1.7%); American Indian (0.9%); and Other (2.6%). Education: 8th Grade or less (8.5%); Some High School (19.7%); G.E.D. (0.9%); High School Graduate (50.4%); Some College (16.2%); and College Graduate (4.3%). Marital Status: Single (29.1%); Married (46.2%); Divorced (11.1%); Separated (10.3%); and Widowed (3.4%).

Reliability coefficient alphas (internal consistency) for the two domestic violence offenders is reported in Table 6. There were a total of 269 offenders included in this study (1993).

These results support the internal consistency or reliability of the DVI. The DVI produces consistent results, regardless of who uses it. These findings are in close agreement with previous reliability research.

Table 6. Reliability coefficient alphas in two samples of domestic violence offenders.
All coefficient alpha are significant at $p<.001$. (1993, N = 269)

Scales	**1 D.M. Offenders N = 152**	**2 D.M. Offenders N = 117**
Truthfulness Scale	.86	.85
Aggressivity Scale	.86	.84
Alcohol Scale	.91	.91
Drug Scale	.90	.88
Violence Scale	.85	.85
Stress Coping Abilities	.92	.91

To determine if sex differences in the different DVI scales existed the results of Group 2 were used. There were insufficient number of females in Group 1. Even in Group 2 (N = 117) the distributions for males and females were not equivalent, meaning that the variances of distributions were unequal (and not normally distributed). Because of this t-test comparisons could not be done and the sex differences were tested using the Wilcoxon signed-rank test.

The Wilcoxon sign-rank test results indicated that only the Aggressivity Scale manifests a statistically significant gender difference at the .05 level. These findings indicate that the male domestic violence offenders were more aggressive than female domestic violence offenders. These findings resulted in

different distribution scores being established for males and females on the DVI Aggressivity Scale. These results emphasize the importance of ongoing database research.

18. Validation of DVI Scales Using SAQ-Adult Probation II Scales

In 1993 a study was done to examine relationships between corresponding scales on the Domestic Violence Inventory (DVI) and the SAQ-Adult Probation II (SAQ) in a domestic violence diversion program. The DVI is designed for domestic violence offenders. The SAQ-Adult Probation II is designed for assessing adult probationers. Both the DVI and the SAQ had undergone revisions to improve the tests so it decided to re-run validation research on the revised tests.

Although independent, several scales on both tests are similar or analogous. Only the similar or analogous scales were compared. These scales included the Truthfulness Scale, Alcohol Scale, Drug Scale, Violence Scale, Aggressivity Scale and the Stress Coping Ability Scale. Domestic violence defendants (N = 150) were used in the study (1993).

Method

The DVI and SAQ-Adult Probation II were administered in group settings to 150 arrested domestic violence offenders. Test administration was counter-balanced. The demographic composition of this sample was as follows: There were 126 males and 24 females. Age: 18 to 25 (16.7%); 26 to 35 (50.7%); 36 to 45 (20.7%); 46 to 55 (8%); and 56 or older (4%). Ethnicity: Caucasian (58%); Black (14%); Hispanic (18%); American Indian (9.3%); and Other (1%). Education: 8th Grade or less (4%); Partially Completed High School (30.7%); High School Graduate (51.3%); Partially Completed College (13.3%); and College Graduate (1%).

The results of this concurrent validity study demonstrate the relationships between the DVI and the SAQ-Adult Probation II. Product-moment correlations are presented in Table 7.

Table 7. Product-moment correlations. (1993, N = 150)
All correlations are significant at p<.01.

DVI & SAQ AP Scales	Agreement Coefficients
Truthfulness	.63
Aggressivity	.34
Alcohol Scale	.41
Drug Scale	.38
Violence Scale	.64
Stress Coping	.74

These highly significant correlations support the validity of the DVI. The Truthfulness Scales on each of these assessment instruments are very similar in content. And, the Stress Coping Abilities Scales on these two tests are identical. Other scales correlate significantly, but vary more in terms of different scale items.

The SAQ-Adult Probation II had been extensively researched on adult probationers, whereas the DVI has been researched on domestic violence offenders. This study is important because it integrates SAQ and DVI research. The present study strongly supports the validity of the DVI.

19. Validation of the DVI Using Evaluator Ratings

The present study (1993, N = 559) was conducted to determine the relationship between experienced staff ratings and DVI scales. Domestic violence diversion program staff screened program applicants for admission as part of their normal routine. While evaluator rating studies tend to be adversely affected by inter-rater reliability, these studies can to provide sound validation when the measures to be rated are well defined.

Evaluators were instructed to interview each client, administer and score the Treatment Intervention Inventory (TII) and review client's police reports. After completing their screening procedure, staff were to rate each client. The evaluators were instructed to rate the applicants on DVI correlate measures, i.e., truthfulness in interview, substance (alcohol and other drugs) abuse, aggressiveness, violence proneness, and stress coping abilities. These ratings were to be completed before DVI tests were scored.

Results

The results of this study (1993) are presented in Table 8. The correlations between evaluator ratings and DVI scales are significant with the exception of the Stress Coping Abilities Scale.

Table 8. Product-moment correlations between staff ratings and DVI scales. (1993, N = 559)

Scales	Agreement Coefficients	Significance Level
Truthfulness Scale	.10	P< .02
Aggressivity Scale	.38	P< .01
Alcohol Scale	.54	P< .01
Drug Scale	.50	P< .01
Violence Scale	.44	P< .01
Stress Coping Abilities	.03	P< .57

DVI scores were available after approximately 30 to 35 minutes of testing time. Yet, the agreement between staff ratings and DVI scale scores were highly significant. The less significant correlation between Truthfulness Scale scores and staff ratings of client truthfulness ratings is not surprising. The literature consistently notes that in court related settings, defendants under-report their problems when evaluated for referral. Also, the Treatment Intervention Inventory (TII) test contains a Truthfulness Scale.

The non-significant correlation between the Stress Coping Ability Scale and evaluator ratings is in marked contrast to the Stress Coping Ability Scales high concurrent validity with clinical and chemical dependency client populations. Also, the Stress Coping Abilities Scale is represented in the DVI and TII. In post study interviews most staff reported that they did not score the TII until later that day or the next day. In other words, TII results were, in most cases, unavailable at the time of staff ratings. When the Stress Coping Abilities Scale is compared to other objective instruments designed to measure stress or anxiety, highly significant correlations are demonstrated. Subsequently, DVI and TII Stress Coping Abilities Scale scores were compared and were found to be significantly correlated at $p<.001$.

These results support the validity of the DVI. Domestic violence evaluator ratings of domestic violence offenders were significantly correlated with DVI scales. All DVI scales but the Stress Coping Abilities Scale were highly correlated with evaluator ratings. The highest correlation coefficients were found with the Alcohol, Drug and Violence scales. These measures are well defined and evaluator ratings of these scales were in close agreement with the DVI scales. Whereas stress coping abilities is less well defined, hence, the lack of a significant correlation with evaluator ratings of stress coping abilities. These results provide validation evidence for the DVI as an accurate instrument for domestic violence offender assessment.

20. Replication of a DVI Validation Study Using Evaluator Ratings

A study (1993) was conducted to replicate an earlier study (cited above) that investigated the relationship between DVI scales and staff ratings. It was decided that the earlier study may have been affected by differences in evaluator procedures during the study. Not all evaluators consistently followed the study procedures as instructed.

For clarity, staff were instructed to rate each defendant after they interviewed the applicant, reviewed their TII results and read the police report. Defendants were being screened for admission into a domestic violence diversion program. The DVI was given as part of the intake procedure, but scored after all defendant staff ratings were completed.

The results of this study are presented in Table 9. All product-moment correlations demonstrated significant relationships between experienced staff ratings and DVI scale scores.

Table 9. Product-moment correlations between staff ratings and DVI scales. (1993, N = 1350)
All correlations are significant at p<.01.

DVI Scales	Agreement Coefficients
Truthfulness Scale	.34
Aggressivity Scale	.30
Alcohol Scale	.53
Drug Scale	.47
Violence Scale	.43
Stress Coping Abilities	.38

The correlations between staff ratings and the Aggressivity, Alcohol, Drug and Violence scales were in close agreement to those found in the earlier study. However, the correlations with the Truthfulness and Stress Coping Abilities scales are much higher than previously found. Apparently, evaluators were more consistent in following study procedures and the ratings were based on all available information.

Staff completed this normal assessment procedure, including reviewing TII results, prior to completing their defendant ratings. These agreement coefficients are all significant, in predicted directions and impressive. The DVI does what it purports to do. This study supports the validity of the DVI.

21. A Study of Reliability of the DVI in Domestic Violence Defendants.

This study (1994) tested the reliability of the DVI in a sample of domestic violence defendants. With expanded use of the DVI across the US and Canada, the reliability of the DVI continues to be investigated in different samples of domestic violence offenders from around the country. It should be noted that the majority of domestic violence offenders are male, and the present study sample is no exception. The small number of female participants make determining sex differences in DVI scale scores impractical.

Method

There were 255 domestic violence defendants included in the present study. There were 237 males (92.9%) and 18 females (7.1%). The demographic composition of the defendants was as follows: Age: 16 to 25 (29.4%); 26 to 35 (43.9%); 36 to 45 (19.2%); 46 to 55 (5.5%); 56 to 65 (2.0%). Ethnicity: Caucasian (51.4%); Black (47.8%), Hispanic (0.4%); American Indian (0.4%). Education: 8th Grade or less (3.9%); Some High School (33.7%); G.E.D. (6.7%); High School Graduate (38.0%); Some College (14.1%); Technical/Business School (0.4%); College Graduate (14.1%); and Professional/ Graduate School (0.8%). Marital Status: Single (47.1%); Married (39.2%); Divorced (7.1%); and Separated (6.7%).

Reliability coefficient alphas are presented in Table 10.

Table 10. Reliability coefficient alphas. Domestic violence defendants. (1994, N = 255)
All coefficient alphas are significant at p<.001

Scales	Coefficient Alpha
Truthfulness Scale	.87
Aggressivity Scale	.85
Alcohol Scale	.92
Drug Scale	.88
Violence Scale	.87
Stress Coping Abilities	.90

This study supports the reliability (internal consistency) of the DVI. All scales have highly significant reliability coefficient alphas. The DVI is a reliable test for the assessment of domestic violence offenders. The DVI is an objective, standardized and reliable test.

22. Reliability Study of the DVI and the DVI Control Scale

In 1994 the DVI was revised to incorporate a new measure called the Control Scale. The Aggressivity Scale was replaced with the Control Scale. The rationale for this change was that the DVI had a Violence Scale, consequently the Aggressivity Scale could be replaced without giving up a lot of important information. And, at this time the concept of "control" had emerged in domestic violence literature as an important and in some cases a focal issue. In other words this change in scales gave up little, yet gained a lot of important information. "Control" refers to control of self and others. Some theorists maintain that "loss of control" can in fact be a way of controlling others. Other theorists emphasize the attitudes and behaviors inherent in "control of others."

DVI reliability research was used to review all scales to aid in shortening the number of DVI test items. Revising the test would also make it more concise, direct and easier to complete. Reading levels of the test items were also analyzed to improve readability and comprehension for domestic violence offenders. Test items with the best statistical properties were retained. Inter-item reliability coefficients were used in combination with content of the test items to aid in development of the revised scales. Reliability of the DVI was investigated in the present study.

Method

In this study (1995), the DVI was administered to 343 domestic violence offenders. There were 307 (89.5%) males and 36 (10.5%) females. The demographic composition of this sample is described as follows: Age: 18 to 30 (52.2%); 31 to 40 (32.1%); 41 to 50 (12.0%); 51 to 65 (3.7%). Ethnicity: Caucasian (65.5%); Black (13.9%); Hispanic (16.5%); Asian (0.6%); American Indian (1.8%) and Other (1.8%). Education: 8th Grade or less (9.1%); Some High School (29.2%); G.E.D. (8.6%); High School Graduate (36.6%); Some College (10.3%); Technical/Business School (1.8%) and College Graduate (4.4%). Marital Status: Single (35.3%); Married (40.2%); Divorced (11.7%) and Separated (12.2%).

Reliability coefficient alphas are presented in Table 11.

Table 11. Reliability coefficient alphas. Domestic violence offenders. (1995, N = 343)
All coefficient alpha are significant at p<.001.

Scale	Coefficient Alpha
Truthfulness Scale	.86
Control Scale *	.84
Alcohol Scale	.90
Drug Scale	.89
Violence Scale	.87
Stress Coping Abilities	.93

*The Aggressivity Scale was replaced with the Control Scale in 1994.

These results strongly support the reliability (internal consistency) of the DVI. And in particular, the Control Scale was shown to have statistically highly significant reliability. All reliability coefficient alphas were significant at p<.001. The DVI is an objective, standardized and reliable domestic violence offender assessment instrument.

23. Reliability of the DVI in Two Samples of Domestic Violence Offenders

Two samples of domestic violence offenders were included in the present study (1995) to further investigate reliability in different samples and assessment milieu. The groups of offenders represented two different geographical areas of the country in similar domestic violence evaluation programs. The purpose of the present study (1995) was to investigate reliability of the different DVI scales across different domestic violence offender samples.

People often develop firm masculine or feminine identifications that contribute to consistent "sex differences" or gender differences on psychometric tests. DVI is a risk assessment instrument that measures risk from a variety of perspectives, notably, risk of alcohol and drug abuse, violence, control and mental health. If sex differences exist in these areas then male and female respondents are likely to score differently on these DVI scales. This study also investigated sex differences in DVI scales in one of the domestic violence samples included in the study.

Method

The DVI was administered to two different samples of domestic violence offenders. The total number of offenders involved in the study (1995) was 1,821. Group 1 consisted of 611 domestic violence offenders. There were 530 (86.7%) males and 81 (13.3%) females. The demographic composition of this sample is described as follows: Age: 16 to 20 (10.4%); 21 to 30 (44.9%); 31 to 40 (31.6%); 41 to 50 (10.5%) and 51 to 65 (2.7%). Ethnicity: Caucasian (41.6%); Black (57.0%); Hispanic (1.0%); Asian (0.3%); American Indian (0%) and Other (0.2%). Education: 8th Grade or less (3.3%); Some High School (29.2%); G.E.D. (4.8%); High School Graduate (51.8%); Some College (6.7%); Technical/

Business School (0.7%); College Graduate (3.1%) and Professional/Graduate School (0.5%). Marital Status: Single (48.6%); Married (38.1%); Divorced (8.0%); and Separated (5.2%).

Group 2 consisted 1,210 domestic violence defendants (1,074 males and 136 females). The demographic composition of this sample is as follows: Age 19 and under (6.2%); 20 to 29 (42.6%); 30 to 39 (34.8%); 40 to 49 (12.8%); 50 to 59 (2.7%); 60 and older (0.8%). Ethnicity: Caucasian (50.2%); Black (42.7); Hispanic (5.2%); Asian (0.3%); American Indian (0.6%); and Other (0.7%). Education: 8th Grade or less (5%); Some High School (30%); G.E.D. (62%); High School Graduate (44.4%); Some College (9.3%); Technical/Business School (0.9%); College Graduate (3.3%); Professional/ Graduate School (0.5%). Marital Status: Single (44.5%); Married (38.9%); Divorced (8.8%) and Separated (1.8%).

Reliability coefficient alphas are presented in Table 12.

Table 12. Reliability coefficient alphas. Two sample of domestic violence offenders.
All coefficient alphas are significant at p<.001. (1995, Total N = 1,821)

Scale	**1 D.V. Offenders N = 611**	**2 D.V. Offenders N = 1,210**
Truthfulness Scale	.87	.87
Control Scale	.85	.85
Alcohol Scale	.91	.90
Drug Scale	.89	.88
Violence Scale	.87	.88
Stress Coping Abilities	.92	.93

This study strongly supports the reliability (internal consistency) of the DVI. All coefficient alphas were statistically significant at p<.001. Reliability refers to consistency of results regardless of who uses the instrument. DVI results are objective, verifiable and reproducible.

Sex differences were investigated using offenders in Group 2. T-tests were calculated for all DVI scales to evaluate possible gender differences. These results are presented in Table 13. Significant sex differences were found on three DVI scales, i.e., Alcohol Scale, Drug Scale and the Violence Scale. Significant sex differences were not observed on the Truthfulness Scale, Control Scale or Stress Coping Abilities Scale.

Table 13. Sex differences in group 2 offenders. (1995, N = 1,210)

DVI Scales	Males Mean (N=1,074)	Females Mean (N=136)	T value	Significance Level
Alcohol Scale	8.27	6.20	3.23	p<.001
Drug Scale	5.62	4.17	2.74	p=.006
Violence Scale	8.22	7.27	1.99	p=.047

Based on this research, gender specific norms (or separate male and female scoring procedures) have been established in the DVI software for men and women on the Alcohol Scale, Drug Scale and Violence Scale. In general, males tend to make more straightforward admissions on these items then females.

Gender specific norms or separate male female distributions have been developed and incorporated in the DVI software program for men and women on **the Alcohol Scale, Drug Scale and Violence Scale**. As the DVI database continues to expand and incorporate more demographics, (e.g., age, gender, ethnicity, and education) representation, DVI research will continue to study these important variables.

24. DVI Reliability Study in Four Samples of Domestic Violence Offenders

Four domestic violence offender samples were included in the present study (1996) to further investigate DVI reliability in different offender samples. The groups represented domestic violence defendants from different geographical areas of the country, but the offender assessment programs were similar. With expanded use of the DVI across the country and Canada, it's important to establish the applicability of the DVI in different parts of the country and assessment programs. The purpose of the present study (1996) was to investigate reliability of the DVI in different domestic violence offender samples.

Method

The DVI was administered to four groups of domestic violence offenders. There were a total of 841 offenders included in this study (1996). **Group 1** consisted of 306 domestic violence offenders. This sample included 267 (87.3%) males and 39 (12.7%) females. The demographic composition of Group 1 is as follows: Age: 16 to 20 years (3.9%), 21 to 25 (19.6%), 26 to 30 (24.5%), 31 to 35 (20.6%), 36 to 40 (18.3%), 41 to 45 (7.8%); 46 to 50 (3.9%), 51 to 55 (1.0%), and over 60 (0.3%). Ethnicity: Caucasian (70.9%), Black (22.2%), Hispanic (3.6%), Asian (1.3%), and Native American (2.0%). Education: 8th grade or less (2.0%), Some High School (22.9%), G.E.D. (13.4%), High School Graduate (37.6%), Some College (19.3%), College Graduate (1.6%), Technical/Business School (2.9%), and Professional/Graduate School (0.3%). Marital Status: Single (39.9%), Married (30.4%), Divorced (17.6%), Separated (11.8%), and Widowed (0.3%).

Group 2 consisted of 287 domestic violence offenders. There were 255 males (88.9%) and 32 females (11.1%). The demographic composition of this sample is as follows: Age: 16 to 20 years (6.3%), 21 to 25 (19.7%), 26 to 30 (28.5%), 31 to 35 (64; 22.5%), 36 to 40 (38; 13.4%), 41 to 45 (16; 5.6%), 46 to 50 (8; 2.8%) and 51 to 55 (1.1%). Ethnicity: Caucasian (72.8%), Black (20.9%), Hispanic (3.8), Asian (0%), American Indian (1.7%) and Other (0.7%). Education: 8th grade or less (1.8%), Some High

School (19.4%), G.E.D. (11.7%), High School Graduate (40.6%), Some College (16.6%), College Graduates (5.3%), Technical/Business School (2.5%) and Professional/Graduate School (2.1%). Marital Status: Single (65.1%), Married (17.2%), Divorced (12.6%), Separated (4.5%) and Widowed (0.7%).

Group 3 consisted of 95 domestic violence offenders. There were 78 males (82.1%) and 17 females (17.9%). The demographic composition of this sample is as follows: Ethnicity: Caucasian (84.2%), Black (1.1%), Hispanic (11.6%), Asian (1.1%), and Other (2.1%). Education: 8th grade or less (4.2%), Some High School (20.0%), G.E.D. (11.6%), High School Graduate (36.8%), Some College (11.6%), Technical/Business School (6.3%), College Graduates (5.3%), and Professional/Graduate School (4.2%). Marital Status: Single (16.8%), Married (42.1%), Divorced (17.9%), Separated (22.1%), and Widowed (1.1%).

Group 4 consisted of 153 adjudicated domestic violence offenders. This sample contained 147 (96.1%) males and 6 (3.9%) females. The demographic composition of this sample is as follows: Age: 19 years and younger (2.6%), 20 to 29 years (45.1%), 30 to 39 years (36.5%), 40 to 49 years (11.8%) and 50 to 59 years (3.9%). Ethnicity: Caucasian (47.7%), Black (47.1%), Hispanic (1.3%), Native American (0.7%) and Other (3.3%). Education: 8th grade or less (1.3%), Some High School (35.3%), G.E.D. (3.9%), High School Graduates (45.8%), Some College (9.8%), College Graduate (3.3%) and Professional/Graduate School (0.7%). Marital Status: Single (52.9%), Married (33.3%), Divorced (9.2%), Separated (3.9%) and Widowed (0.7%).

Reliability coefficient alphas are presented in Table 14. The total number of domestic violence offenders included in the study was 841.

Table 14. Reliability coefficient alphas. 841 domestic violence offenders (1996)
All coefficient alphas are significant at p<.001.

DVI Scale	**1 DV Offenders N = 306**	**2 DV Offenders N = 287**	**3 DV Offenders N = 95**	**4 DV Offenders N = 153**
Truthfulness	.85	.87	.86	.89
Control Scale	.85	.86	.85	.92
Alcohol Scale	.93	.93	.94	.89
Drug Scale	.88	.87	.92	.91
Violence Scale	.85	.87	.90	.85
Stress Coping Abilities	.92	.90	.92	.91

These results support the internal consistency (reliability) of the DVI All coefficient alphas are significant at p<.001. The DVI is demonstrated to be a reliable domestic violence offender assessment instrument in different offender samples. These results indicate that the DVI is applicable to widely varied geographically regions of the US and Canada.

25. Reliability of the DVI in Large Samples of Domestic Violence Offenders

In 1996 two large domestic violence offender assessment programs were added to the DVI database. A study (1996) was conducted to determine the reliability of the DVI in these two new probationer samples. **The first group contained 1,209 domestic violence offenders.** There were 1,074 males (88.8%) and 135 females (11.2%). The demographic composition of this group is as follows: Age: Under 19 (6.2%), 20 to 29 (42.6%), 30 to 39 (34.9%), 40 to 49 (12.8%), 50 to 59 (2.7%), 60 and over (0.7%). Education: 8th grade or less (5.1%), Some High School (30.1%), G.E.D. (6.2%), High School Graduate (44.6%), Some College (9.3%), Technical/Business School (0.9%), College Graduate (3.3%), Professional/Graduate School (0.4%). Ethnicity: Caucasian (50.4%), Black (42.9%), Hispanic (5.2%), Asian (0.3%), Native American (0.6%), and Other (0.6%). Marital Status: Single (44.6%), Married (39.0%), Divorced (8.9%), and Separated (7.5%).

Group 2 consisted of 1,478 domestic violence offenders. Although this study was completed in 1996, Group 2 began by using the previous version of the DVI that contained the Aggressivity Scale. The demographic composition of this group is as follows: Males (1,283; 86.8%); Females (195; 13.2%). Age: 19 years and younger (7.6%), 20 to 29 years (40.0%), 30 to 39 years (36.0%), 40 to 49 years (12.8%), 50 to 59 years (2.8%), 60 and over (0.8%). Ethnicity: Caucasian (35.1%), Black (62.7%), Hispanic (1.4%), Asian (0.3%), Native American (0.3%), and Other (0.2%). Education: 8th grade or less (5.8%), Some High School (36.0%), G.E.D. (4.1%), High School Graduates (39.0%), Some College (12.1%), Technical/Business School (0.7%), College Graduates (2.2%), Professional/Graduate School (0.2%). Marital Status: Single (46.8%), Married (35.1%), Divorced (10.2%), Separated (7.6%), and Widowed (0.2%).

Reliability coefficient alphas are presented in Table 15. There were a total of 2,687 domestic violence offenders included in the study.

Table 15. Reliability coefficient alphas. N = 2,687 domestic violence offenders (1996).
All coefficient alphas are significant at p<.001.

Scale	1 D.V. Offenders N = 1,209	2 D.V. Offenders N = 1,478
Truthfulness Scale	.85	.86
Control Scale	.85	-
Aggressivity Scale	-	.86
Alcohol Scale	.89	.88
Drug Scale	.86	.85
Violence Scale	.86	.85
Stress Coping Abilities	.92	.90

These results support the internal consistency of the Domestic Violence Inventory (DVI). Reliability refers to consistency of results regardless of who uses the instrument. DVI results are objective, verifiable and reproducible. The DVI has been reliable across two large samples of domestic violence offenders.

The DVI is more than just another alcohol or drug test. In addition to substance (alcohol and other drugs) abuse, the DVI measures violence (lethality) potential, identifies control issues, and evaluates stress coping abilities.

This DVI study (1996, N=1,478) was started before the Aggressivity Scale was replaced with the Control Scale. Since the Violence Scale provides much of the information contained in the Aggressivity Scale, the substitution of the Control Scale added important new information without giving up important information. This study supports the reliability (internal consistency) of the DVI.

DVI - JUVENILE RESEARCH

The Domestic Violence Inventory (DVI) adult test was modified for juvenile (12 to 17 years) assessment. The DVI-Juvenile is designed for juvenile and troubled youth assessment. The six DVI-Juvenile scales (measures) are the same as those contained in the DVI. The DVI-Juvenile tests reading level has been lowered and a few items had to be juvenile oriented. The six DVI-Juvenile scales (measures) are: Truthfulness Scale, Violence (Lethality) Scale, Control Scale, Alcohol Scale, Drug Scale and Stress Coping Abilities.

In response to many requests, the DVI was modified for use with juveniles and troubled youth. The six scales or measures remain the same. And the DVI-Juvenile incorporates all of the DVI's special features.

26. Reliability Study of the DVI-Juvenile in Three Samples of Juvenile Domestic Violence Offenders

In early 1997 the Domestic Violence Inventory (DVI) was modified for juveniles (12 to 17 years of age). The present study was conducted to test the reliability of the DVI-Juvenile. There were three different samples of juvenile domestic violence offenders included in the study. These juvenile offender samples were taken from three different domestic violence offender assessment programs from different areas in the country.

Method

The DVI-Juvenile was administered to three groups of adjudicated juvenile offenders. Group 1 consisted of 50 juvenile offenders. There were 42 males (84%) and 8 females (16%). The demographic composition of this group is as follows: Ethnicity: Caucasian (56%), Black (18%), Hispanic (18%), American Indian (6%), and Other (2%). Education: 6th grade or less (6%), 7th grade (10%), 8th grade (20%), 9th grade (22%), 10th grade (18%), 11th grade (20%), and 12th grade (4%).

Group 2 consisted of 51 adjudicated juvenile domestic violence offenders. This sample included 48 males (94.1%) and 3 females (5.9%). The demographic composition of this group is as follows: Ethnicity: Caucasian (49.2%), Black (23.5%), Hispanic (15.6%), American Indian (5.8%), and Other (5.8%). Education: 6th grade or less (3.9%), 7th grade (11.8%), 8th grade (21.5%), 9th grade (21.5%), 10th grade (19.6%), and 11th grade (21.5%).

Group 3 consisted of 41 juveniles that were arrested for domestic violence offenses. There were 23 males (56.1%) and 18 females (43.9%). The demographic composition of this group is as follows: Ethnicity: Caucasian (82.9%), Black (2.4%), Hispanic (9.8%), American Indian (2.4%), and Other (2.4%). Education: 6th grade or less (4.9%), 7th grade (4.9%), 8th grade (17.1%), 9th grade (43.9%), 10th grade (14.6%), 11th grade (9.8%), High School Graduates (4.9%).

Reliability coefficient alphas for the three DVI-Juvenile samples are presented in Table 16.

Table 16. Reliability coefficient alphas. Juvenile offenders (1997, Total N=142)

All coefficient alphas significant at p<.001.

DVI-J Scale	1 Juv. Offenders N = 50	2 Juv. Offenders N = 51	3 Juv. Offenders N = 41
Truthfulness Scale	.89	.87	.91
Alcohol Scale	.91	.90	.91
Drug Scale	.90	.89	.89
Violence Scale	.92	.90	.91
Control Scale	.88	.86	.89
Stress Coping Abilities	.91	.90	.93

These results support the reliability (internal consistency) of the DVI-Juvenile test. All reliability coefficient alphas were significant at p<.001. Rather than use one sample representing one geographical area, several field tests or studies were completed in the validation of the DVI-Juvenile. The DVI-Juvenile was standardized on a juvenile population of troubled youth.

These results strongly support the reliability of the DVI-Juvenile. These samples consisted of troubled youths arrested for domestic violence offenses. The DVI-Juvenile has impressive reliability (internal consistency). The DVI-Juvenile now offers an alternative for troubled youth domestic violence assessment. The DVI is appropriate for domestic violence offender assessment, and the DVI-Juvenile is an appropriate domestic violence offender assessment instrument for juvenile offenders.

27. Reliability of the DVI in Five Samples of Adult Domestic Violence Defendants

Method

The DVI was administered (1997) to five samples of adult domestic violence defendants. The total number of participants was 5,751. **Group 1 consisted of 201 defendants**, 163 were male (81.1%) and 38 were female (18.9%). The demographic composition of this sample is as follows: Age: 19 years or younger (5.5%), 20 through 29 years (36.3%), 30 through 39 years (38.8%), 40 through 49 years (14.9%), 50 through 59 years (3.5%), and 60 years and older (0.5%). Ethnicity: Caucasian (20.9%), Black (6.0%), Hispanic (65.7%), Native American (1.0%), and Asian (3.0%). Education: 8th grade or less (2.0%), Some High School (5.0%), High School Graduates (22.4%), Some College (4.5%), Technical/Business School (41.3%), College Graduates (15.4%), Graduate School/Advanced Degree

(6.5%), and Professionals (3.0%). Marital Status: Single (7.0%), Married (56.2%), Separated (26.4%), Divorced (7.5%), and Widowed (3.0%).

Group 2 consisted of 255 adult domestic violence defendants. This sample included 211 males (82.7%) and 44 females (17.3%). The demographic composition of this sample is as follows: Age: 19 and under (3.5%); 20 to 29 (32.9%); 30 to 39 (43.9%); 40 to 49 (16.5%); 50 to 59 (2.4%) and 60 to 69 (0.4%). Ethnicity: Caucasian (67.8%); Black (10.6%); Hispanic (14.1%); Asian (1.2%); American Indian (1.6%) and Other (4.7%). Education: 8th grade or less (2.7%); Some High School (18.8%); G.E.D. (3.1%); High School Graduate (49.4%); Some College (22.7%); Technical/Business School (1.2%) and College Graduate (2.0%). Marital Status: Single (40.0%); Married (41.6%); Divorced (11.0%) and Separated (7.5%).

Group 3 consisted of 1,138 adult domestic violence defendants. There were 997 males (87.6%) and 141 females (12.4%). The demographic composition of this group is as follows: Age: 19 years or younger (4.9%), 20 through 29 years (35.3%), 30 through 39 years (39.8%), 40 through 49 years (15.5%), 50 through 59 years (3.2%) and 60 years or older (1.0%). Ethnicity: Caucasian (67.3%), Black (14.9%), Hispanic (8.1%), Native American (1.6%), Asian (1.8%) and Other (5.6%). Education: 8th grade or less (0.7%), Some High School (4.8%), High School Graduate (24.4%), Business/Technical School (6.0%), Some College (41.7%), College Graduate (16.4%), Graduate Degree (1.0%) and Professional (4.3%). Marital Status: Single (38.8%), Married (37.6%), Separated (12.2%), Divorced (10.5%) and Widowed (0.3%).

Group 4 consisted of 1,914 adult domestic violence defendants. There were 1,695 males (88.7%) and 209 females (10.9%). Eight answer sheets (0.4%) did not contain gender information. The demographic composition of this group is as follows: Age: 19 years or younger (3.9%), 20 through 29 (37.3%), 30 through 39 (39.6%), 40 through 49 (14.7%), 50 through 59 (3.6%) and 60 years and older (0.7%). Ethnicity: Caucasian (53.3%), Black (24.9%), Hispanic (12.7%), Native American (0.9%), Asian (3.7%) and Other (2.5%). Education: 8th grade or less (4.7%), Some High School (24.3%), G.E.D. (5.2%), High School Graduates (42.1%), Some College (16.9%), Technical/Business School (1.3%), College Graduates (3.1%) and Graduate/Professional (1.1%). Marital Status: Single (39.4%), Married (38.2%), Divorced (12.9%), Separated (7.6%) and Widowed (1.7%).

Group 5 consisted of 2,243 adult domestic violence offenders. There were 1,922 males (85.7%) and 321 females (14.3%). The demographic composition of group 5 is as follows: Age: 19 years and younger (5.1%), 20 to 29 years (35.7%), 30 to 39 years (37.9%), 40 to 49 years (16.5%), 50 to 59 years (3.8%), and 60 years and older (1.0%). Education: 8th grade or less (5.8%), Some High School (26.5%), G.E.D. (5.9%), High School Graduate (40.2%), Some College (15.4%), Technical/Business School (1.1%), College Graduate (3.3%) and Professional/Graduate School (0.7%). Ethnicity: Caucasian (64.2%), Black (15.4%), Hispanic (11.5%), Asian (0.9%), Native American (1.8%) and Other (3.7%). Marital Status: Single (40.1%), Married (38.0%), Divorced (12.5%), Separated (7.2%) and Widowed (0.5%).

Reliability coefficient alphas for the five samples of adult domestic violence offenders included in the study are presented in Table 17.

Table 17. Reliability coefficient alphas in five adult offenders samples. (1997, Total N=5,751)

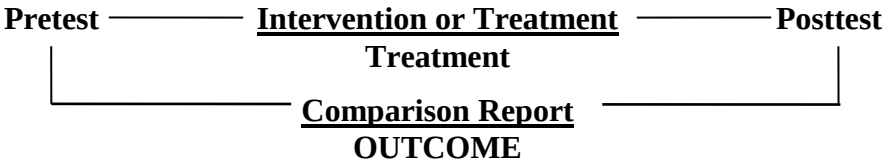
All coefficient alphas are significant at p<.001.

DVI Scale	1 Offenders N = 201	2 Offenders N = 255	3 Offenders N = 1,138	4 Offenders N = 1,914	5 Offenders N = 2,243
Truthfulness Scale	.88	.87	.85	.89	.88
Alcohol Scale	.94	.89	.88	.90	.85
Drug Scale	.90	.87	.88	.85	.91
Violence Scale	.90	.93	.92	.93	.94
Control Scale	.85	.92	.88	.91	.91
Stress Coping Abilities	.95	.92	.93	.94	.94

The results of this study (1997) support the reliability (internal consistency) of the DVI. All coefficient alphas for all DVI scales were significant at p<.001. These coefficient alphas are remarkably consistent across all domestic violence offender samples included in the study. DVI results are objective, verifiable and reliable with impressive internal consistency.

INTRODUCING THE DVI-PRE-POST

In response to many user requests (1998), the Domestic Violence Inventory (DVI) was modified so that it can be used as a pretest and posttest outcome comparison. In brief, after the DVI Pretest is administered the client undergoes intervention (anger or stress management) program or treatment (individual, group or family counseling) involvement. Upon completion of treatment or program involvement the client is administered the DVI Posttest.



Each time the DVI Pretest or DVI Posttest is given it generates an automated (computer scored) report which summarizes the results of that test administration. Moreover, when the posttest is administered the DVI Pre-Post program automatically compares pretest and posttest scale scores and summarizes those results in a comparison report. The Comparison Report objectively compares pretest and posttest scale scores. Consequently these **objective outcome measures** show whether the client has improved, stayed the same or gotten worse.

These Pre-Post scale comparisons includes: Truthfulness Scale, Violence (Lethality) Scale, Control scale, Alcohol Scale, Drug Scale and Stress Coping Abilities Scale. The DVI Pre-Post is designed so that scale scores reflect the here-and-now. Scale score outcome comparisons can improve, stay the same, or get worse.

28. Validity, Reliability and Accuracy of the DVI

This study (1998) was conducted to test the validity, reliability and accuracy of the DVI. Two statistical procedures were used in the present study to test the validity of the DVI. The first procedure involved t-test comparisons between first offenders and multiple offenders (discriminant validity) and the second procedure involved statistical decision-making (predictive validity). For the t-test comparisons, a first offender was defined as an offender who did not have a prior arrest and a multiple offender was defined as an offender who had one or more prior arrests. Several discriminant validity tests were conducted. Number of alcohol arrests was used to define first offenders and multiple offenders to test the Alcohol Scale. Similarly, number of drug arrests was used for the Drug Scale. The answer sheet item "number of domestic violence arrests was used to categorize offenders as either first offenders or multiple offenders for the Control Scale. Finally, the answer sheet item "total number of arrests" was used to categorize offenders for other scale analyses. Because risk is often defined in terms of severity of problem behavior it is expected that multiple offenders would score significantly higher on the different scales than first offenders. This was an empirical question that was tested in the present study.

In assessment, a measurement can be considered a prediction. For example, the Alcohol Scale is a measure of alcohol abuse or severity of abuse. Alcohol Scale scores would predict if an individual has an alcohol problem. A benchmark that can be used for the existence of an alcohol problem is treatment. If an individual has been in alcohol treatment then the individual is known to have had an alcohol problem. Therefore, the Alcohol Scale should predict if an individual has been in treatment.

Statistical decision-making is closely related to predictive validity of a test. The quality of statistical decision-making and test validity are both assessed by the accuracy with which the test (Alcohol Scale) classifies "known" cases (treatment). In the present study predictive validity was evaluated in the Domestic Violence Inventory (DVI) by using contingency tables defined by scale scores and either treatment or desire for treatment.

Risk range percentile scores are calculated for each DVI scale. These risk range percentile scores are derived from scoring equations based on responses to scale items, Truth-Corrections and prior criminal history information. These scores are then converted to percentile scores. There are four risk range categories: **Low Risk** (zero to 39th percentile), **Medium Risk** (40 to 69th percentile), **Problem Risk** (70 to 89th percentile) and **Severe Problem or Maximum Risk** (90 to 100th percentile). Risk range percentile scores represent degree of severity.

Analysis of the accuracy of DVI risk range percentile scores involves comparing the risk range percentile scores obtained from client DVI test results to the predicted risk range percentages as defined above. The percentages of clients expected to fall into each risk range is the following: Low Risk **(39%)**, Medium Risk **(30%)**, Problem Risk **(20%)** and Severe Problem or Maximum Risk **(11%)**. The actual percentage of probationers falling in each of the four risk ranges, based on their risk range percentile scores, was compared to these predicted percentages.

Method

There were three domestic violence offender samples used in the study. The total number of participants was 5,122. **Group 1 consisted of 604 domestic violence offenders.** There were 521 males (86.3%) and 83 females (13.7%). The demographic composition of this sample is as follows: Age: 19 and under (4%), 20 - 29 (34.3%), 30 - 39 (38.2%), 40 - 49 (16.6%), 50 - 59 (5%) and 60 and over (2%). Ethnicity: Caucasian (60.9%), Black (21.7%), Hispanic (15.9%), Asian (0.2%), Native American (0.5%) and Other (0.8%). Education: 8th grade or less (11.1%), Some High School (3.3%), G.E.D. (5%), High School graduate (37.6%), Some college (10.9%), Technical/Business school (0.5%), College graduate (2.3%) and Professional/Graduate school (0.2%). Marital Status: Single (47%), Married (33.8%), Divorced (12.3%), Separated (6.6%) and Widowed (0.2%).

Group 2 consisted of 1,239 domestic violence offenders. There were 1,068 males (86.2%) and 171 females (13.8%). The demographic composition of this sample is as follows: Age: 19 and under (5%), 20 - 29 (36.7%), 30 - 39 (39.9%), 40 - 49 (14.9%), 50 - 59 (2.9%) and 60 and over (0.6%). Ethnicity: Caucasian (48.8%), Black (47.2%), Hispanic (2.7%), Asian (0.4%), Native American (0.3%) and Other (0.7%). Education: 8th grade or less (8%), Some High School (29.1%), G.E.D. (4%), High School graduate (42.3%), Some college (13%), Technical/Business school (0.2%), College graduate (3.3%) and Professional/Graduate school (0.1%). Marital Status: Single (43.1%), Married (39.9%), Divorced (10.8%), Separated (6%) and Widowed (0.3%).

Group 3 consisted of 3,279 domestic violence offenders. There were 2,786 males (85%) and 493 females (15%). The demographic composition of this sample is as follows: Age: 19 and under (5.4%), 20 - 29 (36.2%), 30 - 39 (37.8%), 40 - 49 (16.2%), 50 - 59 (3.5%) and 60 and over (0.9%). Ethnicity: Caucasian (70.7%), Black (7.9%), Hispanic (13.6%), Asian (1%), Native American (2.6%) and Other (4.1%). Education: 8th grade or less (4.8%), Some High School (27.7%), G.E.D. (7.1%), High School graduate (39.8%), Some college (14.4%), Technical/Business school (2%), College graduate (3.5%) and Professional/Graduate school (0.6%). Marital Status: Single (39%), Married (40.2%), Divorced (13.2%), Separated (7.2%) and Widowed (0.4%).

Reliability coefficient alphas for the three groups are presented in Table 18. There were a total of 5,122 domestic violence offenders included in the study (1998).

Table 18. Reliability coefficient alphas in three adult offenders samples. (1998, Total N=5,122)

All coefficient alphas are significant at p<.001.

DVI Scale	1 Offenders N = 604	2 Offenders N = 1,239	3 Offenders N = 3,279
Truthfulness Scale	.87	.88	.88
Alcohol Scale	.94	.93	.94
Drug Scale	.91	.90	.92
Violence Scale	.89	.89	.90
Control Scale	.82	.83	.84
Stress Coping Abilities	.93	.92	.93

These results support the reliability of the DVI. All coefficient alphas were significant at p<.001. All coefficient alphas for DVI scales are very highly significant. The DVI is a reliable domestic violence offender assessment instrument.

T-tests were calculated for all DVI scales to assess possible sex differences in the three domestic violence offender groups. These results are presented in Table 19.

Table 19. T-test comparisons of sex differences. (1998)
Domestic Violence Offender Sex Differences (Total N = 5,122)

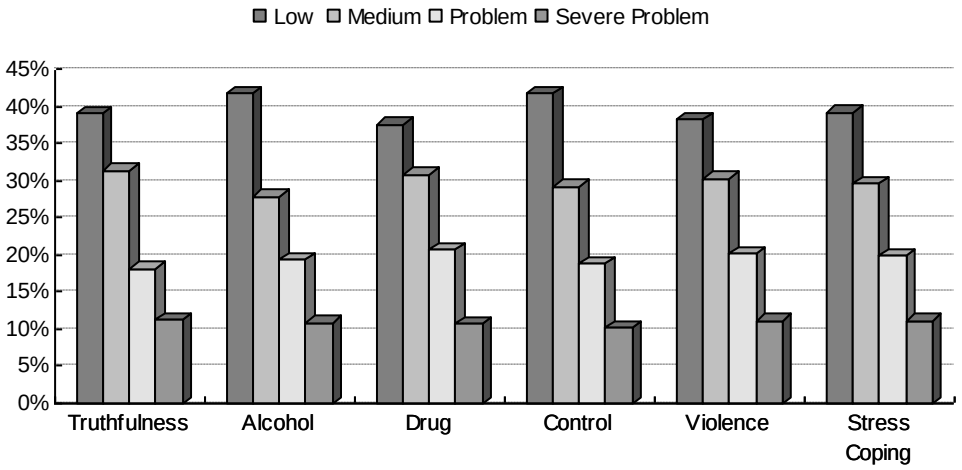
DVI SCALE	Group 1 604 Offenders	Group 2 1,239 Offenders	Group 3 3,279 Offenders
Truthfulness Scale	n.s.	n.s.	n.s.
Alcohol Scale	t=3.83, p<.001	t=3.13, p=.002	t=6.11, p<.001
Drug Scale	n.s.	n.s.	t=3.12, p=.002
Control Scale	n.s.	n.s.	n.s.
Violence Scale	t=4.80, p<.001	t=2.83, p=.005	t=10.96, p<.001
Stress Coping Abilities	n.s.	t=3.16, p=.002	n.s.

Significant sex differences were demonstrated on two of the six scales, i.e., Alcohol and Violence, in all groups. Significant sex differences were found on the Stress Coping Abilities Scale in Group 2. Significant sex differences were found on the Drug Scale in Group 3.

Based on this (1998) study, gender specific norms (or separate male and female scoring procedures) have been established in the DVI software program for men and women on the Alcohol, Violence, Drug and Stress Coping Abilities scales. Significant sex differences were not observed on the Truthfulness or Control scales. This is an example of the value of ongoing DVI research. With more accurate and fair measures, assessment personnel can be more confident in their assessment-related decisions.

The risk range percentile scores for Group 3 are presented in Table 20.

Table 20. Risk Range Percentile Scores for Group 3, N = 3,279 offenders.



Risk Range	Truthful-ness	Alcohol	Drug	Control	Violence	Stress Coping	**Predicted**
Low	39.1	41.8	37.6	41.8	38.3	39.2	**39%**
Medium	31.4	27.9	30.9	29.2	30.3	29.7	**30%**
Problem	18.2	19.4	20.8	18.8	20.2	20.0	**20%**
Maximum	11.3	10.9	10.7	10.2	11.2	11.1	**11%**

These results show that obtained risk range percentile scores closely approximated the predicted risk range percentile scores for each of the six DVI scales presented in Table 20 for this offender sample included in the study. **These results indicate that the DVI is a very accurate domestic violence offender risk assessment instrument.**

The results of the comparisons between obtained risk percentages and predicted percentages for Group 3 shows that all obtained scale risk range percentile scores were within 2.8 percent of predicted. The largest difference between obtained and predicted risk range percentages occurred on the Low Risk category. For the Problem Risk and Maximum Risk categories, all but two comparisons showed that the obtained percentages were within one percentage point of predicted. **This is very accurate offender risk assessment.**

The t-test comparisons between first offenders and multiple offenders for each scale is presented in Tables 21 through 24. There were 3,279 domestic violence offenders used in this analysis.

Table 21. T-test comparisons between first offenders and multiple offenders.
Offender status defined by total number of arrests. (N = 3,279)

DVI Scale	First Offenders Mean (N=1,251)	Multiple Offenders Mean (N=2,028)	T-value	Level of significance
Truthfulness Scale	9.08	7.27	t = 9.08	p<.001
Violence Scale	16.93	30.95	t = 28.76	p<.001
Stress Coping Abilities	109.54	104.36	t = 3.46	p=.001

Table 22. T-test comparison of Alcohol Scale between first offenders and multiple offenders. Offender status defined by number of alcohol arrests.

DVI Scale	First Offenders Mean (N=2,454)	Multiple Offenders Mean (N=825)	T-value	Level of significance
Alcohol Scale	6.92	22.62	t = 31.85	p<.001

Table 23. T-test comparison of Control Scale between first offenders and multiple offenders. Offender status defined by number of domestic violence arrests.

DVI Scale	First Offenders Mean (N=2,594)	Multiple Offenders Mean (N=685)	T-value	Level of significance
Control Scale	8.91	11.52	t = 7.66	p<.001

Table 24. T-test comparison of Drug Scale between first offenders and multiple offenders. Offender status defined by number of drug arrests.

DVI Scale	First Offenders Mean (N=3,110)	Multiple Offenders Mean (N=169)	T-value	Level of significance
Drug Scale	4.97	21.37	t = 16.39	p<.001

These t-test results support the discriminant validity of the DVI. All t-test comparisons between first offenders and multiple offenders were significant on the Alcohol, Drug, Control, Violence and Stress Coping Abilities scales. The Truthfulness Scale showed that first offenders scored significantly higher than multiple offenders. The mean scale score on the Stress Coping Abilities Scale indicated that first offenders had higher scores on average (better stress coping abilities) than multiple offenders.

T-test results of the Control Scale and Violence Scale indicated that multiple offenders scored much higher than first offenders. The very large significant difference between first and multiple offenders strongly support the discriminant validity of the Control Scale and Violence Scale. T-test results of the Alcohol Scale and Drug Scale, where offender status was defined by alcohol arrests and drug arrests, respectively, also showed very large significant differences between first and multiple offenders. These results strongly support the discriminant validity of the Alcohol Scale, Drug Scale, Control Scale and Violence Scale.

The test of predictive validity for the Alcohol Scale is presented in Table 25. Defendants who scored between the 40th and 69th percentile are not included in the table because the table distinguishes between problem and no problem behavior. No problem is defined as an Alcohol Scale score at or below the 39th percentile, whereas alcohol-related problematic behavior is defined as an Alcohol Scale score in the 70th or above percentile range. Alcohol treatment information was obtained from offenders' answers to DVI test items concerning treatment or desire for treatment.

Table 25. Predictive validity for the Alcohol Scale using scale scores and alcohol treatment.

	Alcohol Treatment		
Alcohol Scale	No AA and No Desire	Attends AA or Desires Treatment	Number in each category
Low Risk (zero to 39th percentile)	1,362 (.83)	8 (.01)	1,370
Problem or Severe Problem Risk (70 to 100th percentile)	284 (.17)	709 (.99)	993
	1,646	717	N = 2,363

These results show that for the 717 offenders who reported having attended AA or who desired alcohol treatment, 709 offenders, or 99 percent, had Alcohol Scale scores at or above the 70th percentile. Similarly, of the 1,646 offenders who reported no AA or no desire for alcohol treatment, 1,362 offenders or 76 percent had Alcohol Scale scores in the Low Risk or no problem range. This percentage is reasonable because offenders could have a drinking problem without having been in treatment. Combining these results gives an overall accuracy of the Alcohol Scale of **88 percent**. This is very accurate considering that a highly accepted diagnostic procedure, the mammogram, is about 70 percent accurate. These results show there is a very strong positive correlation between Alcohol Scale scores and alcohol treatment.

The predictive validity test of the Drug Scale was done in the same way using drug treatment as the criterion. **Of the 207 offenders who desired drug treatment 207 or 100 percent had Drug Scale scores in the 70th percentile or higher (Problem Risk and above). Of the 2,429 offenders who did not have treatment 1,604 (66%) had Drug Scale scores in the Low Risk (no problem) range.** The overall accuracy of the Drug Scale in predicting drug treatment was **69 percent**. These results show there is a very strong positive correlation between the Drug Scale and drug treatment.

For the Violence Scale, 86 percent of the offenders who desired domestic violence treatment, had Violence Scale scores at or above the 70th percentile and the overall accuracy was 78 percent. This means that there is a very strong positive correlation between Violence Scale scores and desire for domestic violence treatment.

Taken together these results strongly support the reliability, validity and accuracy of the DVI. Reliability coefficient alphas were significant at $p<.001$ for all DVI scales. **T-test comparisons between first offenders and multiple offenders support discriminant validity of the Alcohol Scale, Drug Scale, Control Scale and Violence Scale because multiple offenders scored significantly higher on the different scales than first offenders.** Predictive validity of the Alcohol Scale, Drug Scale and Violence Scale was shown by the accuracy with which the scales identified problem risk behavior (having had or desired treatment). **The Alcohol Scale had an accuracy of 88 percent, the Drug Scale had an accuracy of 69 percent and the Violence Scale had an accuracy of 78 percent.** These results support the reliability, validity and accuracy of the DVI.

29. DVI-Juvenile Reliability, Validity and Accuracy in a Sample of Juvenile Domestic Violence Offenders

This study (1998) was conducted to test the reliability, validity and accuracy of the Domestic Violence Inventory – Juvenile version (DVI-J). Reliability was tested using the inter-item reliability coefficient alpha statistic. Validity tests consisted of the same discriminant and predictive validity tests that were conducted in the above adult study. Accuracy was also modeled after the study summarized above. The study sample consisted of juvenile domestic violence offenders. These juvenile offenders were administered the DVI-J as part of normal evaluation program procedures.

Method

The DVI-Juvenile was administered to 122 adjudicated juvenile offenders. There were 81 males (66%) and 41 females (34%). The demographic composition of this group is as follows: Age: 13 years of age and under (13%), 14 (8%), 15 (28%), 16 (33%), 17 and over (18%). Ethnicity: Caucasian (77%), Black (7%), Hispanic (9%), Native American (3%), and Asian (2%). Education: 6th grade or less (6%), 7th grade (9%), 8th grade (16%), 9th grade (24%), 10th grade (30%), 11th grade (12%), and 12th grade (2%).

Criminal history of these juveniles is summarized as follows: Age of First Conviction: 10 & under (4%), 11 years of age (3%), 12 (8%), 13 (12%), 14 (11%), 15 (23%), 16 (15%), 17 (6%). Times on Probation: None (35%), Once (49%), Twice (15%), 3 or more times (2%). Probation Revocations: None (87%), One (7%), Two or more (6%). Juvenile Court Hearings: None (25%), One (23%), Two (13%), Three (11%), Four (11%), Five or more (18%). Juvenile Detentions: None (58%), One (29%), Two (4%), Three or more (9%). Juvenile Confinements: None (86%), One (9%), Two or more (5%). Domestic Violence Arrests: None (40%), One (51%), Two or more (10%). Alcohol Arrests: None (83%), One (5%), Two (8%), Three or more (5%). Drug Arrests: None (84%), One (13%), Two or more (4%). Assault Arrests: None (72%), One (21%), Two or more (7%).

Reliability coefficient alphas for this DVI-Juvenile sample are presented in Table 26. All coefficient alphas are significant at $p<.001$.

Table 26. Reliability coefficient alphas. Juvenile offenders (1998, N=122)

All coefficient alphas significant at p<.001.

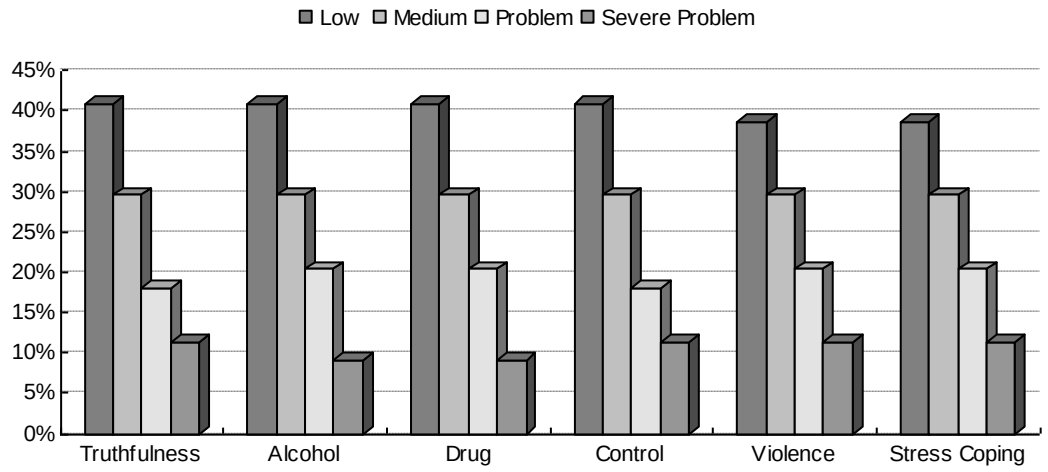
DVI-J Scale	Juv. Offenders N = 122
Truthfulness Scale	.87
Alcohol Scale	.93
Drug Scale	.92
Violence Scale	.91
Control Scale	.83
Stress Coping Abilities	.92

These results strongly support the reliability (internal consistency) of the DVI-Juvenile test. All reliability coefficient alphas were significant at $p<.001$ and all are above the generally accepted

standard of .80. The DVI-Juvenile is a reliable assessment instrument for the juvenile population of troubled youth.

The risk range percentile scores for this sample of juvenile offenders are presented in Table 27.

Table 27. Risk Range Percentile Scores for juvenile offenders, N = 122 (1998).



Risk Range	Truthful-ness	Alcohol	Drug	Control	Violence	Stress Coping	**Predicted**
Low	40.9	40.9	40.9	40.9	38.6	38.6	**39%**
Medium	29.6	29.6	29.6	29.6	29.6	29.6	**30%**
Problem	18.1	20.4	20.4	18.1	20.4	20.4	**20%**
Maximum	11.4	9.1	9.1	11.4	11.4	11.4	**11%**

These results show that obtained risk range percentile scores closely approximated the predicted risk range percentile scores for each of the six DVI-J scales presented in Table 27 for this juvenile offender sample. **These results indicate that the DVI-Juvenile is a very accurate domestic violence offender risk assessment instrument for juvenile offenders.**

The results of the comparisons between obtained risk percentages and predicted percentages show that all obtained scale risk range percentile scores were within 1.9 percent of predicted. 16 of the 24 possible (6 scales x 4 risk ranges) comparisons between obtained and predicted risk range percentages were within one percentage point. **This is very accurate juvenile offender risk assessment.**

In the discriminant validity analysis, multiple offenders were defined as offenders who had been arrested for either alcohol, drugs, domestic violence or assault arrests. Juvenile offenders do not have sufficient criminal history to carry out the analysis in the same way as was done for adults. As can be seen in the criminal history data, the vast majority of the juvenile offenders did not have any arrests. For this reason, the juvenile analysis is not as "clean" as the adult analysis. The t-test comparisons between first offenders and multiple offenders for each scale are presented in Tables 28, 29 and 30. In Table 28 multiple offender represents juveniles who had 2 or more domestic violence arrests or one or more assault arrests. In Table 29 and 30 a multiple offender is defined as a juvenile who had one or more arrest. Only by defining offenders in this way can sufficient numbers be reached to carry out the t-test statistics. There were 122 juvenile offenders used in this analysis.

Table 28. T-test comparisons between first offenders and multiple offenders. (1998, 122 juveniles)
Offender status defined by number of domestic violence and assault arrests.

DVI-J Scale	First Offenders Mean (N=87)	Multiple Offenders Mean (N=35)	T-value	Level of significance
Truthfulness Scale	5.87	5.49	t = 0.42	n.s.
Control Scale	11.46	12.11	t = 0.44	n.s.
Violence Scale	25.28	36.17	t = 3.74	p<.001
Stress Coping Abilities	89.03	86.11	t = 0.39	n.s.

Table 29. T-test comparison of Alcohol Scale between first offenders and multiple offenders.
Offender status defined by number of alcohol arrests.

DVI-J Scale	First Offenders Mean (N=85)	Multiple Offenders Mean (N=18)	T-value	Level of significance
Alcohol Scale	11.56	21.67	t = 4.23	p<.001

Table 30. T-test comparison of Drug Scale between first offenders and multiple offenders.
Offender status defined by number of drug arrests.

DVI-J Scale	First Offenders Mean (N=105)	Multiple Offenders Mean (N=17)	T-value	Level of significance
Drug Scale	7.19	15.76	t = 3.27	p<.001

These t-test results support the discriminant validity of the DVI-J Alcohol, Drug and Violence Scales. All t-test comparisons between first offenders and multiple offenders show that multiple offenders scored higher than first offenders, however, the differences were not statistically significant on the Truthfulness, Control and Stress Coping Abilities Scales. With a larger sample size, these t-test comparisons would be statistically significant.

The very large significant difference between first and multiple offenders strongly support the discriminant validity of the Alcohol Scale, Drug Scale and Violence Scale. These results support the discriminant validity of the DVI-J.

The test of predictive validity for the Alcohol Scale is presented in Table 31. Juveniles who scored between the 40th and 69th percentile are not included in the table. No problem is defined as an Alcohol Scale score at or below the 39th percentile, whereas alcohol-related problem is defined as an Alcohol Scale score in the 70th or above percentile range. Alcohol treatment information was obtained from juveniles' answers to DVI-J test items concerning AA attendance or desire for treatment.

Table 31. Predictive validity for the Alcohol Scale using scale scores and alcohol treatment.

	Alcohol Treatment		
Alcohol Scale	No AA and No Desire	Attends AA or Desires Treatment	Number in each category
Low Risk (zero to 39th percentile)	45 (67%)	-	45 (56%)
Problem or Severe Problem Risk (70 to 100th percentile)	22 (33%)	14 (100%)	36 (44%)
	67 (83%)	14 (17%)	81

These results show that for the 14 juveniles who reported having attended AA or who desired alcohol treatment, all 14, or 100 percent, had Alcohol Scale scores at or above the 70th percentile. Similarly, of the 67 juveniles who reported no AA or no desire for alcohol treatment, 45 individuals or 67 percent had Alcohol Scale scores in the Low Risk or no problem range. This percentage is reasonable because juveniles could have a drinking problem without having been in treatment. This is very accurate. The DVI-J accurately identified all of the juveniles who have alcohol problems and attend AA or desire treatment. These results show there is a very strong positive correlation between Alcohol Scale scores and alcohol treatment.

The predictive validity test of the Drug Scale was done in the same way using drug treatment as the criterion. **Of the 24 juveniles who had or desired drug treatment 24 individuals or 100 percent had Drug Scale scores in the 70th percentile or higher (Problem Risk and above) range.** The DVI-J accurately identified all of the juveniles who had previously been in drug treatment. These results show there is a very strong positive correlation between the Drug Scale and drug treatment.

Taken together these results strongly support the reliability, validity and accuracy of the DVI-Juvenile. Reliability coefficient alphas were significant at $p<.001$ for all DVI-J scales. **T-test comparisons between first offenders and multiple offenders support discriminant validity of the Alcohol Scale, Drug Scale and Violence Scale because multiple offenders scored significantly higher on the different scales than first offenders.** Predictive validity of the Alcohol Scale and Drug Scale was shown by the accuracy with which the scales identified problem risk behavior (having had or desired treatment). **The Alcohol Scale accurately identified 100 percent and the Drug Scale accurately identified 100 percent of the juveniles who alcohol and drug problems.** These results support the reliability, validity and accuracy of the DVI-Juvenile.

30. A Study of Validity, Reliability and Accuracy of the DVI in Five Samples of Offenders

This study (1999) was conducted to further test the validity, reliability and accuracy of the DVI in different samples of domestic violence offenders. The study replicates the statistical procedures of reliability, validity and accuracy of the DVI that was presented in earlier research studies. For a review of these statistical procedures see the validation study presented on page 33 of this document.

Method

There were five domestic violence offender samples used in this study (1999). The total number of participants was 7,905. **Group 1 consisted of 903 domestic violence offenders.** There were 757 males (83.8%) and 146 females (16.2%). The demographic composition of this sample is as follows: Age: 19

and under (4.9%), 20 - 29 (38.5%), 30 - 39 (35.4%), 40 - 49 (15.4%), 50 - 59 (4%) and 60 and over (1.4%). Ethnicity: Caucasian (57.4%), Black (34.4%), Hispanic (4.7%), Asian (0.8%), Native American (0.4%) and Other (0.8%). Education: 8th grade or less (11%), Some High School (27.4%), G.E.D. (5.1%), High School graduate (38.2%), Some college (12.5%), Technical/Business school (0.1%), College graduate (3.7%) and Professional/Graduate school (1.1%). Marital Status: Single (45.7%), Married (35.7%), Divorced (11.2%), Separated (5.3%) and Widowed (0.2%).

Group 2 consisted of 1,157 domestic violence offenders. There were 989 males (85.5%) and 168 females (14.5%). The demographic composition of this sample is as follows: Age: 19 and under (4.1%), 20 - 29 (41.1%), 30 - 39 (34.8%), 40 - 49 (15.5%), 50 - 59 (3.1%) and 60 and over (0.8%). Ethnicity: Caucasian (50.4%), Black (3.2%), Hispanic (17%), Asian (1%), Native American (1.9%) and Other (15%). Education: 8th grade or less (3.8%), Some High School (20.8%), G.E.D. (10.6%), High School graduate (40.4%), Some college (15.5%), Technical/Business school (1.5%), College graduate (3.2%) and Professional/Graduate school (0.4%). Marital Status: Single (44.4%), Married (34.7%), Divorced (10.1%), Separated (3.5%) and Widowed (0.3%).

Group 3 consisted of 1,626 domestic violence offenders. There were 1,396 males (85.9%) and 230 females (14.1%). The demographic composition of this sample is as follows: Age: 19 and under (5.7%), 20 - 29 (34.1%), 30 - 39 (37.5%), 40 - 49 (16.5%), 50 - 59 (4.8%) and 60 and over (1.3%). Ethnicity: Caucasian (69.8%), Black (9.2%), Hispanic (10.8%), Asian (1%), Native American (2.6%) and Other (2.5%). Education: 8th grade or less (5.6%), Some High School (25.3%), G.E.D. (7.4%), High School graduate (40.2%), Some college (13.7%), Technical/Business school (1.7%), College graduate (3.1%) and Professional/Graduate school (0.9%). Marital Status: Single (41.7%), Married (35.9%), Divorced (13.5%), Separated (6.3%) and Widowed (0.2%).

Group 4 consisted of 3,190 domestic violence offenders. There were 2,690 males (84.3%) and 500 females (15.7%). The demographic composition of this sample is as follows: Age: 19 and under (5.2%), 20 - 29 (36.7%), 30 - 39 (35.3%), 40 - 49 (17.5%), 50 - 59 (4.1%) and 60 and over (1.1%). Ethnicity: Caucasian (69%), Black (14.3%), Hispanic (11.2%), Asian (0.9%), Native American (2.4%) and Other (2.4%). Education: 8th grade or less (5.8%), Some High School (25.4%), G.E.D. (8.0%), High School graduate (39.4%), Some college (14.1%), Technical/Business school (1.8%), College graduate (4.7%) and Professional/Graduate school (0.7%). Marital Status: Single (41%), Married (39.6%), Divorced (12.5%), Separated (6.5%) and Widowed (0.5%).

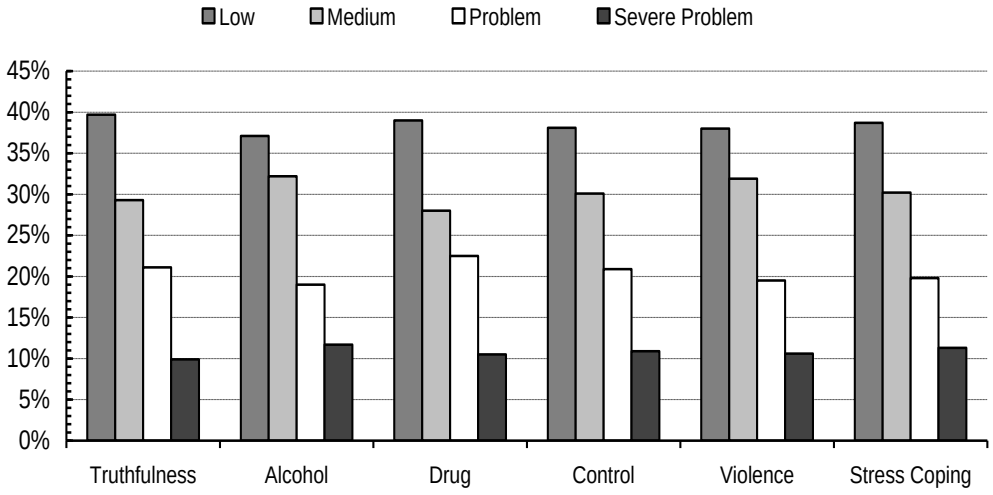
Group 5 consisted of 1,029 domestic violence offenders. There were 919 males (89.3%) and 110 females (10.7%). The demographic composition of this sample is as follows: Age: 19 and under (4.4%), 20 - 29 (40.2%), 30 - 39 (37.2%), 40 - 49 (15%), 50 - 59 (2.6%) and 60 and over (0.6%). Ethnicity: Caucasian (69%), Black (15.3%), Hispanic (9.7%), Asian (0.4%), Native American (3.4%) and Other (2.1%). Education: 8th grade or less (4%), Some High School (24.4%), G.E.D. (9.6%), High School graduate (40.7%), Some college (14.9%), Technical/Business school (3.2%), College graduate (2.8%) and Professional/Graduate school (0.4%). Marital Status: Single (44.3%), Married (31.5%), Divorced (15.8%), Separated (8.1%) and Widowed (0.3%).

Accuracy of the DVI

DVI scale scores are classified according to the following four risk range categories: **Low Risk** (zero to 39th percentile or 39% of the clients), **Medium Risk** (40 to 69th percentile or 30%), **Problem Risk** (70 to 89th percentile or 20%) and **Severe Problem or Maximum Risk** (90 to 100th percentile or 11%). Risk range percentile scores represent degree of severity. Accuracy of the DVI scale scores is determined by

the closeness of obtained scores to the predicted risk range percentages as defined above. The actual percentages of offenders falling in each of the four risk ranges are presented in the graph and table below.

Table 32. Risk Range Percentile Scores for Group 5, N = 1,029 offenders.



	Truthfulness	Alcohol	Drug	Control	Violence	Stress Coping	**Predicted**
Risk Range	%	%	%	%	%	%	**%**
Low	39.7	37.1	39.0	38.1	38.0	38.7	**39%**
Medium	29.3	32.2	28.0	30.1	31.9	30.2	**30%**
Problem	21.1	19.0	22.5	20.9	19.5	19.8	**20%**
Severe Problem	9.9	11.7	10.5	10.9	10.6	11.3	**11%**

As shown in the above, the obtained risk range percentages for all risk categories and all DVI scales were within **2.5** percentage points of the predicted risk ranges. **Of the 24 possibilities (6 scales x 4 risk ranges), there were 15 instances where the obtained risk range deviated from the predicted by less than one percentage point and only 2 instances where the risk range deviated by more than 2 percentage points. These results demonstrate the accuracy of the Domestic Violence Inventory.**

These results show that obtained risk range percentile scores closely approximated the predicted risk range percentile scores for each of the six DVI scales presented in Table 30 for this offender sample included in the study. **These results indicate that the DVI is a very accurate domestic violence offender risk assessment instrument.**

Reliability of the DVI

Reliability coefficient alphas for the five groups are presented in Table 33. There were a total of 7,905 domestic violence offenders included in the study (1999).

Table 33. Reliability coefficient alphas in five adult offenders samples. (1999, Total N=7,905)
All coefficient alphas are significant at p<.001.

DVI Scale	1 Offenders N = 903	2 Offenders N = 1,157	3 Offenders N = 1,626	4 Offenders N = 3,190	5 Offenders N = 1,029
Truthfulness Scale	0.89	0.87	0.88	0.88	0.87
Alcohol Scale	0.93	0.93	0.94	0.94	0.95
Drug Scale	0.87	0.90	0.91	0.91	0.92
Violence Scale	0.90	0.90	0.91	0.90	0.90
Control Scale	0.85	0.84	0.84	0.85	0.86
Stress Coping Abilities	0.90	0.94	0.94	0.93	0.93

These results support the reliability of the DVI. All coefficient alphas were significant at p<.001. All coefficient alphas for DVI scales are well above the generally accepted level of 0.80 for assessment tests. The DVI is a reliable domestic violence offender assessment instrument.

Validity of the DVI

T-test comparisons between first offenders and multiple offenders are presented in Tables 34 for offenders in Group 5. A first offender was defined as an offender who did not have a prior arrest and a multiple offender one or more prior arrests. Several discriminant validity tests were conducted. There were 1,029 domestic violence offenders used in this analysis.

Table 34. T-test comparisons between first offenders and multiple offenders in Group 5. Offender status defined by number of domestic violence arrests. (1999, N=1,029)

DVI Scale	First Offenders Mean (N=790)	Multiple Offenders Mean (N=239)	T-value	Level of significance
Truthfulness Scale	7.80	6.55	t = 3.55	p<.001
Control Scale	8.67	11.48	t = 4.92	p<.001
Violence Scale	24.64	39.74	t = 13.09	p<.001
Stress Coping Abilities	110.36	99.53	t = 3.63	p<.001

T-test comparison of Alcohol Scale between first offenders and multiple offenders. Offender status defined by number of alcohol arrests.

DVI Scale	First Offenders Mean (N=741)	Multiple Offenders Mean (N=288)	T-value	Level of significance
Alcohol Scale	8.04	22.48	t = 15.49	p<.001

T-test comparison of Drug Scale between first offenders and multiple offenders.
Offender status defined by number of drug arrests.

DVI Scale	First Offenders Mean (N=946)	Multiple Offenders Mean (N=83)	T-value	Level of significance
Drug Scale	11.25	19.46	t = 6.84	p<.001

The Control, Violence and Stress Coping Abilities Scales accurately differentiated between first offenders and multiple offenders. These results show that having domestic violence arrests is associated with having higher severity levels for control, violence and stress problems. **These t-test results strongly support the discriminant validity of the Control, Violence and Stress Coping Abilities Scales.**

The Truthfulness Scale shows that first offenders score higher than multiple offenders. There appears to be a trend in offender assessment where first time offenders try to fake good more often than multiple offenders. This finding has been found in the other tests as well.

The Alcohol Scale and Drug Scale accurately differentiated between multiple offenders and first offenders. **These results strongly support the discriminant validity of the Alcohol Scale and Drug Scale.**

The **predictive validity** analysis shows that the Alcohol Scale accurately identified offenders who have alcohol problems. Those offenders who have been in alcohol treatment or desire treatment were identified as having alcohol problems. Alcohol treatment information is obtained from offenders' answers to DVI test items (#56 & #150) concerning alcohol treatment.

Predictive validity of the Alcohol Scale using scale scores and alcohol treatment.

	Alcohol Treatment		
Alcohol Scale	No Treatment or desire	Treatment or desire treatment	Number in each category
Low Risk (zero to 39th percentile)	363 (83%)	1 (0%)	364 (55%)
Problem or Severe Problem Risk (70 to 100th percentile)	75 (17%)	226 (100%)	301 (45%)
	438 (66%)	227 (34%)	N = 665

For the 227 offenders who reported having been in alcohol treatment or desired treatment, 226 offenders, or 100 percent, had Alcohol Scale scores at or above the 70th percentile. Nearly 100 percent of the clients who had alcohol treatment scored in the Problem or Severe Problem risk range on the Alcohol Scale. The DVI Alcohol Scale was extremely accurate in identifying clients with known alcohol problems.

363 of the 438 offenders (83%) who reported no alcohol treatment had Alcohol Scale scores in the Low Risk or no problem range. 589 (226 + 363) of the 665 offenders gives an overall accuracy of the Alcohol Scale of **89 percent**. This is very accurate assessment. These results show that the Alcohol Scale accurately identified alcohol problems.

The Drug Scale accurately identified offenders who have drug problems. Using drug treatment (DVI test items #74, #90, #93 & #151), **158 of the 186 offenders (85%) who reported having been in drug treatment or desired treatment had Drug Scale scores in the Problem Risk range and above.**

Predicting Recidivism

Predictions of "Total number of times arrested" and "Number of domestic violence arrests" shows that the DVI accurately predicts recidivism. The results for predicting re-arrest were very accurate, $F=220.66$, $p<.001$. This regression result (Multiple $R=.829$) strongly supports the prediction accuracy of the Domestic Violence Inventory in predicting re-arrest. The prediction of re-arrest contains the following predictor variables: 1. Number of times sentenced to prison, 2. Number of domestic violence arrests, 3. Number of alcohol arrests, 4. Number of drug arrests, 5. Number of assault arrests, 6. Number of misdemeanor convictions, 7. Number of felony convictions, 8. Number of times on parole and 9. Number of times sentenced to jail.

The prediction of Number of domestic violence arrests also shows that the Domestic Violence Inventory accurately predicts re-offense for domestic violence arrests, $F=18.69$, $p<.001$, $R=.488$. This Multiple R statistic is lower than it is for total number of arrests because the majority of the offenders had one domestic violence arrest. Nevertheless, these results strongly support the prediction accuracy of the DVI. The prediction of recidivism for domestic violence arrests contains the following predictor variables: 1. Age at first conviction, 2. Total number of times arrested, 3. Number of misdemeanor convictions, 4. Number of felony convictions, 5. Number of times on probation, 6. DVI Violence Scale, 7. DVI Stress Coping Abilities Scale, 8. DVI test items of direct admission of domestic violence problems. These results show that criminal history in combination with DVI scale scores accurately predicts recidivism.

These results strongly support the validity and accuracy of the DVI. **T-test results show that the Alcohol Scale, Drug Scale, Control Scale, Violence Scale and Stress Coping Abilities Scale accurately discriminate between first offenders and multiple offenders.** Predictive validity of the Alcohol Scale and Drug Scale shows that the DVI accurately identified offenders who have alcohol and drug problems. **The Alcohol Scale correctly identified 100 percent of "known" cases of alcohol problems and the Drug Scale correctly identified 85 percent of "known" cases of drug problems.** Recidivism predictions show that the DVI accurately predicts recidivism for re-arrest. These results strongly support the reliability, validity and accuracy of the DVI.

31. A Study of the DVI Pre-Post Inventory

This study (1999) summarizes results for the DVI Pre-Post Inventory for 991 domestic violence offenders. The DVI Pre-Post Inventory was introduced on page 32 of this document. The DVI Pretest is administered first followed by intervention and then DVI Posttest. This study includes results of DVI Pretest test administrations for the domestic violence offenders included in the study.

Method

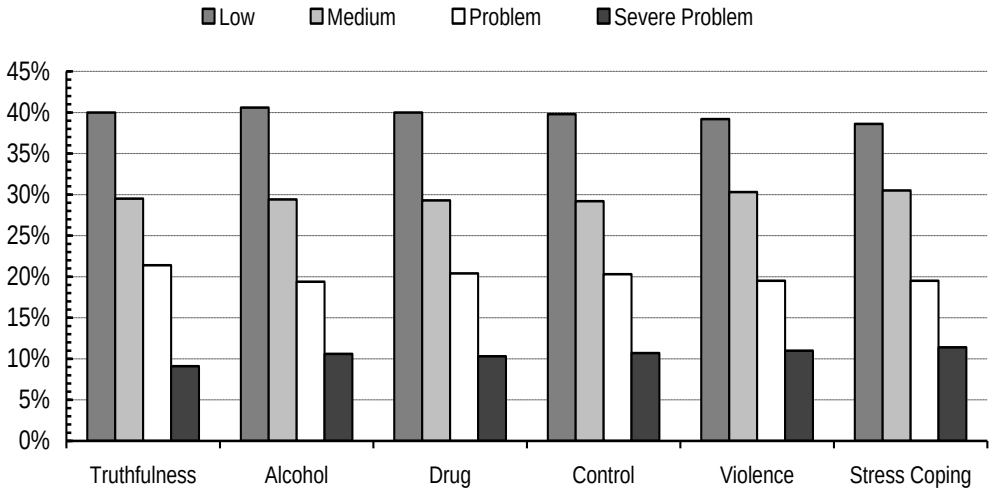
There were 991 domestic violence offenders included in this study (1999). There were 840 males (84.8%) and 151 females (15.2%). The demographic composition of this sample is as follows: Age: 19 and under (4.2%), 20 - 29 (32.5%), 30 - 39 (39.5%), 40 - 49 (18.1%), 50 - 59 (4.3%) and 60 and over (1.3%). Ethnicity: Caucasian (54.6%), Black (16.6%), Hispanic (17.7%), Asian (1.2%), Native

American (1.6%) and Other (8.3%). Education: 8th grade or less (5.2%), Some High School (19%), G.E.D. (9.3%), High School graduate (43.9%), Some college (18.9%), Technical/Business school (0.3%), College graduate (3%) and Professional/Graduate school (0.5%). Marital Status: Single (41.1%), Married (37%), Divorced (13.3%), Separated (7.8%) and Widowed (0.8%).

Accuracy of the DVI Pre-Post Inventory

Risk range percentile scores represent degree of severity. Accuracy of the DVI Pre-Post scale scores is determined by the closeness of obtained scores to the predicted risk range percentages as shown in the table below. The actual percentages of offenders falling in each of the four risk ranges are presented in the graph and table below.

Table 35. DVI Pre-Post Risk Range Percentile Scores (1999, N = 991)



Risk Range	Truthfulness %	Alcohol %	Drug %	Control %	Violence %	Stress Coping %	**Predicted %**
Low	40.0	40.6	39.8	40.0	39.2	38.6	**39%**
Medium	29.5	29.4	29.2	29.3	30.3	30.5	**30%**
Problem	21.4	19.4	20.3	20.4	19.5	19.5	**20%**
Severe Problem	9.1	10.6	10.7	10.3	11.0	11.4	**11%**

The obtained risk range percentages for all risk categories show that all scale scores were within **1.9** percentage points of the predicted risk ranges. **There were only three instances where the obtained risk range deviated from the predicted by more than one percentage point. These results demonstrate the accuracy of the DVI Pre-Post Inventory.**

These results show that obtained risk range percentile scores closely approximated the predicted risk range percentile scores for each of the six DVI scales presented in Table 35 for this offender sample included in the study. **These results indicate that the DVI is a very accurate domestic violence offender risk assessment instrument.**

Reliability of the DVI

As shown in Table 36, the DVI Pre-Post has impressive reliability.

Table 36. Reliability of the DVI Pre-Post (1999, N = 991)

All coefficient alphas are significant at p<.001.

DVI SCALES	Coefficient Alphas
Truthfulness Scale	.88
Alcohol Scale	.92
Drug Scale	.88
Violence Scale	.91
Control Scale	.88
Stress Coping Abilities	.93

Reliability coefficients for all scales are well above the accepted standards (.80) for assessment tests. These results show that the DVI Pre-Post Inventory is a reliable risk assessment instrument.

Validity of the DVI Pre-Post Inventory

As was done in previous research studies, t-test comparisons between first offenders and multiple offenders were conducted to determine the discriminant validity of the DVI Pre-Post. These results are presented in Table 37.

Table 37. T-test comparisons between first offenders and multiple offenders.

Offender status defined by number of domestic violence and assault arrests. (1999, N=991)

DVI Pre-Post Scale	First Offenders Mean (N=706)	Multiple Offenders Mean (N=285)	T-value	Level of significance
Truthfulness Scale	8.42	7.00	t = 2.60	p=.009
Control Scale	7.50	10.28	t = 4.45	p<.001
Violence Scale	18.77	31.93	t = 13.77	p<.001
Stress Coping Abilities	107.49	95.86	t = 3.94	p<.001

T-test comparison of Alcohol Scale between first offenders and multiple offenders.

Offender status defined by number of alcohol arrests.

DVI Pre-Post Scale	First Offenders Mean (N=774)	Multiple Offenders Mean (N=195)	T-value	Level of significance
Alcohol Scale	5.82	17.50	t = 12.99	p<.001

T-test comparison of Drug Scale between first offenders and multiple offenders.
Offender status defined by number of drug arrests.

DVI Pre-Post Scale	First Offenders Mean (N=927)	Multiple Offenders Mean (N=64)	T-value	Level of significance
Drug Scale	11.59	17.00	t = 4.10	p<.001

The results for the Alcohol, Drug, Control, Violence and Stress Coping Abilities Scales show that multiple offenders score significantly higher than first offenders. The Alcohol, Drug, Control, Violence and Stress Coping Abilities Scales accurately differentiated between first offenders and multiple offenders. These results show that having alcohol, drug, assault or domestic violence arrests is associated with having higher severity levels for alcohol, drugs, control, violence and stress coping problems. **These t-test results strongly support the discriminant validity of the Alcohol, Drug, Control, Violence and Stress Coping Abilities Scales.**

The Truthfulness Scale again shows that first offenders score higher than multiple offenders. This outcome is now becoming apparent. There is a trend in offender assessment where first time offenders minimize, deny or fake good more than multiple offenders.

The **predictive validity** analyses for the Alcohol Scale, Drug Scale and Violence Scale are presented below. For an explanation of this procedure see page 33 of the document. Alcohol and drug treatment information is obtained from offenders' answers to test items (#37, #122, #136, #15, #127 & #137) concerning alcohol and drug treatment.

Predictive validity of the Alcohol Scale using scale scores and alcohol treatment.

	Alcohol Treatment		
Alcohol Scale	No Treatment or desire	Treatment or desire treatment	Number in each category
Low Risk (zero to 39th percentile)	402 (77%)	4 (2%)	406 (57%)
Problem or Severe Problem Risk (70 to 100th percentile)	118 (23%)	188 (98%)	306 (43%)
	520 (73%)	192 (27%)	N = 712

The DVI Pre-Post Alcohol Scale was extremely accurate in identifying clients who had or desired alcohol treatment. Nearly 100 percent of the clients who had alcohol treatment scored in the Problem or Severe Problem risk range on the Alcohol Scale.

The Drug Scale accurately identified 93 percent of the offenders who had or desired drug treatment. **Ninety-three percent (93%) of the offenders who reported having been in drug treatment or desired treatment had Drug Scale scores in the Problem Risk range and above.**

Violence as a construct is less salient than alcohol or drug abuse. Nevertheless, Violence Scale accuracy was carried out in a similar procedure using test item #138 (desire for domestic violence counseling) as a definition of domestic violence treatment. The results of this predictive validity test

indicate that the DVI Pre-Post Violence Scale accurately identified 84 percent of the domestic violence offenders who have domestic violence problems. **Eighty-four percent (84%) of the offenders who desired domestic violence counseling scored in the Problem Risk range and above on the Violence Scale.**

Predicting Recidivism

The prediction of "Number of domestic violence arrests" shows that the DVI Pre-Post accurately predicts re-offense for domestic violence arrests, $F=33.39$, $p<.001$, $R=.709$. These results strongly support the prediction accuracy of the DVI Pre-Post. The prediction of recidivism for domestic violence arrests contains the following predictor variables: 1. Age at first conviction, 2. Total number of times arrested, 3. Number of alcohol arrests, 4. Number of drug arrests, 5. Truthfulness Scale, 6. Control Scale, 7. Violence Scale, and 8. DVI Pre-Post test items of direct admission of domestic violence problems. The best predictor variable, by a wide margin, was the Violence Scale. These results show that criminal history in combination with DVI Pre-Post scale scores accurately predicts recidivism of domestic violence arrests.

These results strongly support the reliability, validity and accuracy of the DVI Pre-Post Inventory. Discriminant validity of the Alcohol Scale, Drug Scale, Control Scale, Violence Scale and Stress Coping Abilities Scale is well established. Predictive validity of the Alcohol Scale, Drug Scale and Violence Scale is strongly supported. Recidivism predictions of domestic violence arrests show that the DVI Pre-Post achieves very high prediction accuracy. These results show that the DVI Pre-Post Inventory is a very reliable, valid and accurate domestic violence offender assessment instrument.

By design, the DVI Pre-Post Inventory is an outcome measure. The DVI Pretest is administered at intake, which is followed by an intervention program. The intervention duration may be variable and could vary from agency to agency. The DVI Posttest is administered at a chosen interval of time during or after the intervention program has been in place. The intervention may be six months, nine months, a year or longer. Consequently, DVI Posttest usage varies widely from agency to agency. Because of the elapse in time prior to administration of the DVI Posttest there has not been sufficient posttest data returned at this time to be included in this research summary. When this document is next updated DVI Posttest results as well as Pretest-Posttest comparisons will be included as warranted by the DVI Posttest database.

32. DVI Reliability, Validity and Accuracy in a Large Sample of Domestic Violence Offenders

This study (2000) investigated reliability, validity and accuracy of the DVI in a large sample of domestic violence offenders. There were 7,941 offenders included in this study. These domestic violence offenders were tested in a variety of testing milieus throughout the US and Canada. These include counseling agencies, treatment centers, community corrections, probation and judicial centers. The DVI is widely used throughout the US and Canada and continued database research of the DVI is important. Statistical reliability (coefficient alphas), database validity and DVI scales risk range accuracy were examined. In addition, possible gender differences on scale scores were investigated on each DVI scale. If gender differences exist on any DVI scale then separate male/female scoring procedures are needed.

Method and Results

There were 7,941 domestic violence offenders included in this study (2000). There were 6,565 males (82.7%) and 1,376 females (17.3%). Demographic composition of these participants is as follows: Age:

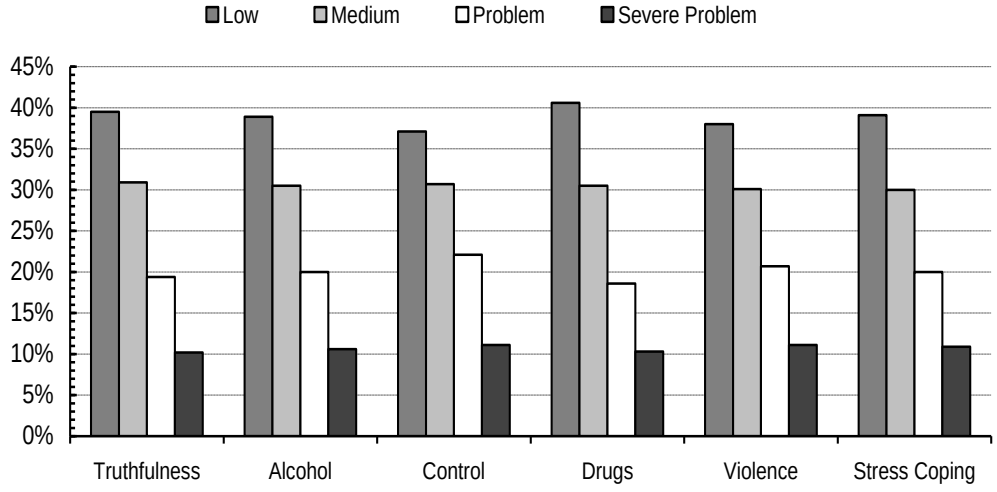
19 & under (6%); 20-29 (36%); 30-39 (35%); 40-49 (19%); 50-59 (4%) and 60 & Over (1%). Ethnicity: Caucasian (63%); Black (19%), Hispanic (13%) and Other (5%). Education: Eighth grade or less (7%); Some H.S. (27%); H.S. graduate/GED (47%); Some college (14%) and College graduate (4%). Marital Status: Single (44%); Married (36%); Divorced (12%); Separate (7%) and Widowed (1%).

The court-history information for these participants is as follows: Age of first conviction: 15 & under (12%); 16-20 (34%); 21-25 (19%); 26-30 (12%); 31-35 (9%); 36-40 (7%); 41-45 (4%); 46-50 (2%); 51 & over (2%). Misdemeanor convictions: None (26%); One (25%); Two (17%); Three (11%); Four (6%); Five or more (14%). Felony convictions: None (73%); One (16%); Two (6%); Three (2%); Four (1%); Five or more (2%). Times on probation: None (33%); One (34%); Two (19%); Three (7%); Four (3%); Five or more (3%). Probation revocations: None (83%); One (11%); Two (3%); Three (1%); Four (1%); Five or more (1%). Times on parole: None (91%); One (7%); Two (1%); Three or more (1%). Parole revocations: None (95%); One (3%); Two (1%); Three or more (2%). Total number of times arrested: None (11%); One (24%); Two (19%); Three (13%); Four (9%); Five or more (25%). Times sentenced to jail: None (50%); One (22%); Two (12%); Three (6%); Four (4%); Five or more (7%). Times sentenced to prison: None (89%); One (8%); Two (2%); Three (1%); Four (1%); Five or more (1%). Years incarcerated: None (84%); One (7%); Two (3%); Three (2%); Four (1%); Five or more (4%). Domestic violence arrests: None (26%); One (52%); Two (14%); Three (4%); Four (1%); Five or more (2%). Alcohol arrests: None (55%); One (22%); Two (10%); Three (5%); Four (2%); Five or more (6%). Drug arrests: None (83%); One (11%); Two (3%); Three (1%); Four (1%); Five or more (2%). Assault arrests: None (73%); One (16%); Two (4%); Three (1%); Four (1%); Five or more (5%).

Accuracy of the DVI

Participant scale scores are classified according to the risk (degree of severity) they represent. Four categories of risk are assigned: **Low risk** (zero to 39th percentile), **Medium risk** (40 to 69th percentile), **Problem risk** (70 to 89th percentile), and **Severe Problem** (90 to 100th percentile). By definition the expected percentage of participants assigned to each risk category is, 39% in Low risk, 30% in Medium risk, 20% in Problem risk and 11% in Severe Problem. The actual percentages of participants placed in the four risk categories based on their scale scores are compared to these expected percentages. Table 38 presents these comparisons. The differences between obtained and expected are shown in parentheses.

Table 38. Risk Range Percentile Scores, N = 7,941 offenders.



Scale	Low Risk (39%)		Medium Risk (30%)		Problem Risk (20%)		Severe Problem (11%)	
Truthfulness Scale	39.5	(0.5)	30.9	(0.9)	19.4	(0.6)	10.2	(0.8)
Alcohol Scale	38.9	(0.1)	30.5	(0.5)	20.0	(0.0)	10.6	(0.4)
Control Scale	37.1	(1.9)	30.7	(0.7)	22.1	(2.1)	11.1	(0.1)
Drugs Scale	40.6	(1.6)	30.5	(0.5)	18.6	(1.4)	10.3	(0.7)
Violence Skills	38.0	(1.0)	30.1	(0.1)	20.7	(0.7)	11.1	(0.1)
Stress Coping Abilities	39.1	(0.1)	30.0	(0.0)	20.0	(0.0)	10.9	(0.1)

As shown in the graph and table above, the DVI scale scores are very accurate. The objectively obtained percentages of participants falling in each risk range are very close to the expected percentages for each risk category. All of the obtained risk range percentages were within 2.1 percentage points of the expected percentages and many (20 of 24 possible) were within one percentage point. Only one obtained percentage was more than two percent from the expected percentage.

For those participants who are identified as having problems (Problem and Severe Problem risk ranges or 31% of the participants), the obtained percentages were extremely accurate. The comparisons between obtained and expected percentages are the following: Truthfulness Scale 29.6%, Alcohol Scale 30.6%, Control Scale 33.2%, Drugs Scale 28.9%, Violence Scale 31.8%, Stress Coping Abilities Scale 30.9%. The problem risk ranges for all DVI scales are in close agreement to the expected percentage. These results demonstrate that the DVI scale scores accurately identify domestic violence risk.

Reliability of the DVI

Reliability coefficient alphas are presented in Table 39.

Table 39. Reliability coefficient alphas (2000, Total N = 7,941).

All coefficient alphas are significant at $p<.001$.

DVI Scale	Alpha
Truthfulness Scale	.88
Alcohol Scale	.93
Control Scale	.88
Drugs Scale	.91
Violence Scale	.90
Stress Coping Abilities	.93

These results support the statistical reliability of the DVI. All reliability coefficients for all DVI scales were well above the generally accepted level (0.75) for tests. Indeed, all DVI scales reliability coefficients

were at or above .90. These results show that the DVI is a highly statistically reliable domestic violence offender assessment test.

Validity of the DVI

Two different statistical procedures are presented that demonstrate the validity of the DVI. The first validation procedure compares first offenders and multiple offenders (discriminant validity). Multiple offenders are defined as offenders who have two or more domestic violence arrests. Because risk of domestic violence is defined in terms of severity of risk it is expected that multiple offenders would score significantly higher on DVI scales than first offenders.

T-test comparisons were used to study the statistical significance between first and multiple offenders. There were 6,255 first offenders and 1,686 multiple offenders (2 or more domestic violence arrests). These results are presented in Table 40.

Table 40. T-test comparisons between first offenders and multiple offenders. (2000, N=7,941)

DVI Scale	First Offenders Mean	Multiple Offenders Mean	T-value	Significance
Truthfulness Scale	9.15	8.01	t =7.65	p<.001
Alcohol Scale	8.17	13.72	t = 16.11	p<.001
Control Scale	8.16	10.59	t = 11.62	p<.001
Drugs Scale	4.60	6.64	t = 8.70	p<.001
Violence Scale	21.42	35.77	t = 35.26	p<.001
Stress Coping Abilities	110.67	99.58	t = 10.22	p<.001

Note: The Stress Coping Abilities Scale is reversed in that the higher the score the better one copes with stress.

These results show that multiple offenders score significantly higher on the Alcohol, Control, Drugs, Violence Scales and Stress Coping Abilities Scales than first offenders. These results support the discriminant validity of the Alcohol, Control, Drugs, Violence and Stress Coping Abilities Scales. The Truthfulness Scale shows that first offenders score significantly higher than multiple offenders. Results on the Truthfulness Scale suggest that first offenders may try to fake good, whereas multiple offenders see no reason to further deny their problems. These results strongly support the discriminant validity of the DVI.

The second validity procedure studied the accuracy at which the DVI identified problem drinkers and drug abusers. To be considered accurate a domestic violence offender test must accurately identify problem clients (drinkers or drug abusers). The criterion in this analysis for identifying offenders as problem drinkers or drug abusers is having been in treatment (alcohol or drug). Having been in treatment identifies offenders as having had an alcohol or drug problem. If a person has never had an alcohol or drug problem it is very likely they have not been treated for an alcohol or drug problem. Thus, offenders are separated into two groups, those who had treatment and those who have not had treatment. Then, offender scores on the Alcohol and Drug Scales are compared. It is predicted that offenders with an

alcohol and/or drug treatment history will score in the problem risk range (70th percentile and above) on the Alcohol and/or Drug Scales. Non-problem is defined in terms of low risk scores (39th percentile and below) on the Alcohol and/or Drug Scales. Substance abuse treatment information is obtained from offender answers to DVI test items regarding alcohol and drug treatment.

Predictive validity analysis shows that Alcohol and Drug Scales accurately identify offenders who have had alcohol and/or drug treatment. The DVI Alcohol Scale is very accurate in identifying domestic violence offenders who have alcohol problems. There were 1,382 offenders who reported having been in alcohol treatment and these offenders are classified as problem drinkers. Of these 1,382 offenders, 1,370 individuals, or 99.1 percent, had Alcohol Scale scores at or above the 70th percentile. **The Alcohol Scale correctly identified nearly all of the offenders categorized as problem drinkers.** This is very accurate assessment. These results validate the DVI Alcohol Scale.

Similar results were found for the DVI Drug Scale. There were 1,337 offenders who reported having been in drug treatment. All 1,337 individuals, or 100 percent, had Drug Scale scores at or above the 70th percentile. **These results strongly support the validity of the DVI Drug Scale.**

Gender Differences

Possible male/female scale score differences were investigated in this study and these results are shown in Table 41.

Table 41. T-test comparisons between males and females. (2000, N=7,941)

DVI Scale	Males Mean	Females Mean	T-value	Significance
Truthfulness Scale	9.04	8.29	t =4.50	p<.001
Alcohol Scale	9.88	6.82	t = 10.37	p<.001
Control Scale	8.57	9.18	t = 2.93	p=.003
Drugs Scale	5.19	4.26	t = 4.10	p<.001
Violence Scale	25.42	19.98	t = 13.61	p<.001
Stress Coping Abilities	109.43	102.99	t = 5.23	p<.001

Note: The Stress Coping Abilities Scale is reversed in that the higher the score the better one copes with stress.

These results demonstrate significant male/female differences on all DVI scales. The Truthfulness, Alcohol, Drugs and Violence Scales show that males score significantly higher than females. Whereas, the Control and Stress Coping Abilities Scales show that females score significantly higher than males. These results indicate that separate scoring procedures are needed for males and females for accurate risk assessment. Accurate assessment must take into account differences between males and females patterns of responding to scale items. The DVI has incorporated separate male/female scoring procedures. The built-in DVI database makes these types of analyses possible and that is why the DVI is accurate and fair.

Discussion

The participants in this study were domestic violence offenders taken from a variety of testing milieus. There were 7,941 offenders included in this study from different areas around the US and Canada. With such a diverse sample of domestic violence offenders these results have wide applicability. The majority of the offenders (82.7%) were male and most (78.3%) were first time domestic violence offenders.

These results strongly support the reliability, validity and accuracy of the DVI. All DVI scale scores were within 2.1 percent of predicted percentages for all four risk range classification categories. Reliability coefficients for all DVI scales were at or above 0.90. All coefficients were significant at $p<0.001$. The results of two validity studies validate the DVI. All DVI scale comparisons between first and multiple offenders show the DVI significantly differentiates between first and multiple offenders. Multiple offenders score significantly higher than first offenders on the Alcohol, Control, Drugs and Violence Scales. Furthermore, the DVI Alcohol Scale accurately identified 99.1 percent of problem drinkers and the Drugs Scale accurately identified 100 percent of problem drug abusers. **The Domestic Violence Inventory is an accurate, reliable and valid domestic violence offender test.**

33. A Study of the DVI in a Sample of Probation Department Domestic Violence Offenders

This study (2000) included domestic violence offenders being tested in a statewide probation department offender assessment program. Statistical reliability, validity and accuracy of the DVI was studied. There were 833 offenders included in this study.

Method and Results

There were 833 domestic violence offenders included in this study (2000). There were 737 males (88.5%) and 96 females (11.5%). Demographic composition of these participants is as follows: Age: 19 & under (5.8%); 20-29 (37%); 30-39 (38.5%); 40-49 (16%); 50-59 (2.4%) and 60 & Over (0.4%). Ethnicity: Caucasian (67.4%); Black (17.6%), Hispanic (9.3%), Native American (2.9%) and Other (2.7%). Education: Eighth grade or less (2.7%); Some H.S. (23.8%); H.S. graduate/GED (49.5%); Some college (20.2%) and College graduate (3.7%). Marital Status: Single (48.3%); Married (28.2%); Divorced (15.1%); Separated (8.1%) and Widowed (0.2%).

Arrests and Court Histories

There were 607 (72.9%) first offenders and 226 (27.1%) multiple offenders (2 or more domestic violence arrests). 35.5% of the offenders reported one or more assault arrests. 59.9% of the offenders had been placed on probation. 16.6% had their probation(s) revoked. 40.1% of the offenders reported having a first conviction between the ages of 16 and 20. 49.2% of the offenders had one or more alcohol-related arrests and 31% had two or more arrests. 21.2% of the offenders had at least one drug-related arrest and 8.1% had two or more arrests.

Reliability coefficient alphas are presented in Table 42.

Table 42. Reliability coefficient alphas (2000, Total N = 833).
All coefficient alphas are significant at p<.001.

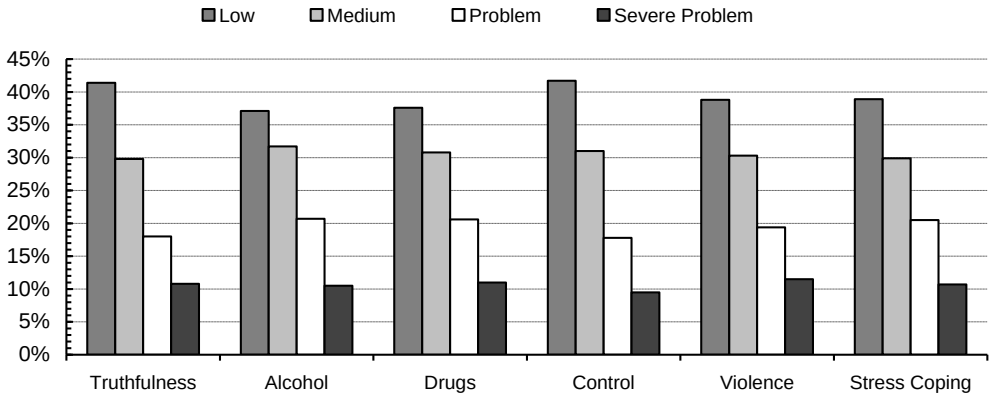
DVI Scale	Alpha
Truthfulness Scale	.87
Alcohol Scale	.95
Control Scale	.84
Drugs Scale	.91
Violence Scale	.89
Stress Coping Abilities	.94

These results are in close agreement to those found in other studies reported above. The DVI achieved high statistical reliability. All DVI scales reliability coefficients were at or above .90. These results show that the DVI is a reliable domestic violence offender test for assessment of probation department offenders.

Accuracy of the DVI

The percentages of offenders classified in the four risk ranges based on their scale scores are presented in Table 43. The differences between obtained and expected percentages are shown in parentheses.

Table 43. Risk Range Percentile Scores (2000, N = 833)



Scale	Low Risk (39%)		Medium Risk (30%)		Problem Risk (20%)		Severe Problem (11%)	
Truthfulness	41.4	**(2.4)**	29.8	**(0.2)**	18.0	**(2.0)**	10.8	**(0.2)**
Alcohol	37.1	**(1.9)**	31.7	**(1.7)**	20.7	**(0.7)**	10.5	**(0.5)**
Drug	37.6	**(1.4)**	30.8	**(0.8)**	20.6	**(0.6)**	11.0	**(0.0)**
Control	41.7	**(2.7)**	31.0	**(1.0)**	17.8	**(2.2)**	9.5	**(1.5)**
Violence	38.8	**(0.2)**	30.3	**(0.3)**	19.4	**(0.6)**	11.5	**(0.5)**
Stress Coping Abilities	38.9	**(0.1)**	29.9	**(0.1)**	20.5	**(0.5)**	10.7	**(0.3)**

As shown in the above graph and table, the obtained risk range percentages for all risk categories and all DVI scales were within 2.7 percentage points of the predicted risk ranges. Of the 24 possibilities (6 scales x 4 risk ranges), there were 16 instances where the obtained risk range were within one percentage point of the predicted. There were only 3 instances where the obtained risk range deviated from the predicted by more than 2 percentage points. These results demonstrate the accuracy of the Domestic Violence Inventory.

Validity of the DVI

The discriminant validity analyses described in the previous research study are presented in Table 44. In the discriminant validity analyses "Number of domestic violence arrests," "Number of alcohol arrests" and "Number of drug arrests" were used to define first offenders and multiple offenders. There were 226 domestic violence multiple offenders, 256 alcohol multiple offenders and 67 drug multiple offenders.

Table 44. T-test comparisons between first offenders and multiple offenders. (2000, N = 833)

DVI Scale	First Offenders Mean Score	Multiple Offenders Mean Score	T-value	Level of significance
Truthfulness Scale	8.81	7.63	t = 3.10	p=.002
Alcohol Scale *	7.43	21.67	t = 15.98	p<.001
Drugs Scale *	4.95	15.63	t = 7.66	p<.001
Control Scale	8.25	9.80	t = 3.19	p<.001
Violence Scale	25.27	39.87	t = 13.86	p<.001
Stress Coping Abilities	108.82	98.96	t = 3.08	p=.002

* Offender status defined by alcohol arrests and drug arrests. Stress Coping Abilities scores are reversed in that higher scores mean better stress coping abilities.

These results demonstrate that multiple offenders scored significantly higher on the Alcohol, Drugs, Control, Violence and Stress Coping Abilities Scales than did first offenders. These scales accurately differentiated between first offenders and multiple offenders. These results support the discriminant validity of the Alcohol, Drugs, Control, Violence and Stress Coping Abilities Scales. There are very large scale score differences on the Alcohol, Drugs and Violence Scales between first and multiple offenders. These scales clearly indicate that multiple offenders are at risk in comparison to first offenders.

The Truthfulness Scale shows that first offenders scored significantly higher than multiple offenders. This result has been found in previous studies. First offenders seemingly try to minimize their problems more often than multiple offenders. Multiple offenders appear to be more experienced and know their histories are well documented by the probation department. The Truthfulness Scale has been validated in previous research studies.

The second validity procedure studied the accuracy at which the DVI identified problem drinkers and drug abusers. See the previous study for a discussion on this analysis. Offenders who have been in alcohol or drug treatment are predicted to score in the problem risk ranges (70^{th} percentile and above) on the Alcohol and Drugs Scales. The predictive validity analysis shows that the Alcohol and Drugs Scales accurately identified offenders who have alcohol or drug problems. Treatment information was obtained from offenders' answers to DVI test items (#56, #150, #74, #90, #93 & #151) concerning alcohol and drug treatment. These analyses compared offenders who scored in the problem risk ranges (70^{th} percentile and above) with offenders who scored in the low risk range (39^{th} percentile and below).

Of the 191 offenders who reported having been in alcohol treatment or desired treatment, 190 offenders, or 99.5 percent, had Alcohol Scale scores at or above the 70th percentile. Nearly 100 percent of the offenders who had alcohol treatment scored in the problem risk ranges on the Alcohol Scale. These results validate the DVI Alcohol Scale. Of the 168 offenders who reported having been in drug treatment or desired treatment 163 or 97 percent had Drugs Scale scores in the problem risk ranges. These results validate the DVI Drugs Scale.

Discussion

Results of these statewide probation department offenders were consistent with the general population domestic violence offenders. These results strongly support the reliability, validity and accuracy of the DVI. All DVI scale scores were within 2.7 percent of predicted percentages for all four risk range classification categories. Reliability coefficients for all DVI scales were at or above 0.90. All coefficients were significant at $p<0.001$. The results of two validity studies validate the DVI. All DVI scale comparisons between first and multiple offenders show the DVI significantly differentiates between first and multiple offenders. Multiple offenders score significantly higher than first offenders on the Alcohol, Control, Drugs, Violence and Stress Coping Abilities Scales. Furthermore, the DVI Alcohol Scale accurately identified 99.5 percent of problem drinkers and the Drugs Scale accurately identified 97 percent of problem drug abusers. The Domestic Violence Inventory is an accurate, reliable and valid domestic violence offender test.

34. Validation of Domestic Violence Inventory Scales in a Large Sample (n=37,024)

Demographic Profile

There were 37,024 domestic violence offenders tested with the DVI between July 1996 and August 2005. There were 30,454 males (82.3%) and 6,543 females (17.7%). The ages of the participants ranged from 15 through 84 as follows: 19 & under (6%); 20-29 (36%); 30-39 (33%); 40-49 (19%); 50-59 (4%) and 60 & Over (1%). The demographic composition of participants was as follows. Race/Ethnicity: Caucasian (65%); Black (18%); Hispanic (11%); Native American (3%) and Other (4%). Education: Eighth grade or less (7%); Some high school (28%); High school graduate/GED (45%); Some college (13%) and College graduate (5%). Marital Status: Single (44%); Married (35%); Divorced (12%); Separated (9%) and Widowed (1%).

Over three-fourths (79%) of the participants were first time offenders (one domestic violence arrest). Fourteen percent of the participants had two domestic violence arrests, four percent had three arrests and three percent had four or more domestic violence arrests. Twenty-four percent of the participants had been arrested for assault. Seventeen percent had one arrest for assault; 4% had been arrested twice, and 3% had been arrested for assault three or more times.

Nearly half of the participants (43%) had been arrested for an alcohol-related offence. Twenty-two percent had one alcohol arrest, 10 percent two arrests and 12 percent had three or more arrests.

Eighteen percent of the participants had been arrested for a drug-related offence. Twelve percent had one drug arrest, 3% had two drug arrests and 3% had three or more drug arrests.

Method

Participants completed the DVI as part of the normal routine for domestic violence offender evaluation in court service programs and community service programs. The DVI contains six measures or scales. These scales are briefly described as follows. The Truthfulness Scale measures the truthfulness of the respondent while taking the DVI. The Alcohol Scale measures severity of alcohol use or abuse. The Drugs Scale measures severity of drug use or abuse. The Control Scale measures controlling behaviors that affect self and others. The Violence Scale measures offender propensity to commit acts of violence. The Stress Coping Abilities Scale measures ability to cope with stress.

Reliability

Inter-item reliability (alpha) coefficients for the six DVI scales are presented in Table 45. All scales were highly reliable. All of the alpha reliability coefficients for all DVI scales were at or above 0.86. These results demonstrate that the DVI is a very reliable domestic violence offender assessment test.

Table 45. Reliability of the DVI (N = 37,024, 2005)

DVI Scale	Alpha	Significance Level
Truthfulness Scale	**.88**	p<.001
Alcohol Scale	**.94**	p<.001
Control Scale	**.88**	p<.001
Drugs Scale	**.92**	p<.001
Violence Scale	**.86**	p<.001
Stress Coping Abilities	**.93**	p<.001

Validity

Nearly one-fourth (21%) of the participants in this study had two or more domestic violence arrests. These multiple offenders scored significantly higher than first-time domestic violence offenders on the DVI Alcohol Scale, Control Scale, Drugs Scale, Violence Scale and Stress Coping Abilities Scale. Higher scores on these DVI scales are associated with more severe problems. Discriminate validity results for the comparisons between first and multiple offenders are presented in Table 46. A multiple offender is an offender who had two or more domestic violence arrests. The table presents the mean

scale scores for each DVI scale for first and multiple offenders along with t-test comparisons. The number of first offenders and multiple offenders are shown in parentheses.

T-test comparisons were used to study the statistical significance between first and multiple offenders. There were 29,490 first offenders and 7,534 multiple offenders (2 or more domestic violence arrests). These results are presented in Table 2.

Table 46. T-test Comparisons between First Offenders and Multiple Offenders (2005)

DVI Scale	First Offenders Mean (N=29,490)	Multiple Offenders Mean (N=7,534)	T-value	Level of Significance
Truthfulness Scale	8.80	9.51	t =18.37	p<.001
Alcohol Scale	6.25	10.89	t = 30.64	p<.001
Control Scale	3.25	4.70	t = 25.78	p<.001
Drugs Scale	16.65	18.58	t = 18.53	p<.001
Violence Scale	21.13	23.44	t = 11.12	p<.001
Stress Coping Abilities	122.71	101.92	t = 20.88	p<.001

Note: The Stress Coping Abilities Scale is reversed in that the higher the score the better one copes with stress. It is generally accepted that stress exacerbates emotional and mental health symptomatology.

Table 46 shows that mean (average) scale scores of first offenders were significantly lower than mean scores for multiple offenders on all DVI scales except the Stress Coping Scale, for which higher scores reflect better stress management. As predicted, multiple offenders scored significantly higher on the Truth Scale, Alcohol Scale, Control Scale, Drugs Scale, and Violence Scale than did first offenders.

The Alcohol, Control, Drugs, Violence and Stress Coping Abilities Scales results strongly support the discriminant validity of the DVI. These results are important because they show that the Alcohol, Control, Drugs, Violence and Stress Coping Abilities scales do measure levels of severity. The offenders who were believed to have more severe problems (multiple offenders) scored significantly higher on these scales than first-time offenders.

Correlation coefficients between DVI scales and “arrests for domestic violence” and “assault” are presented in Table 47. These correlation results show that the Violence Scale is highly correlated with violence-related arrests. All other DVI scales had correlation coefficients that were much lower than the Violence Scale. These results support the validity of the Violence Scale.

Table 47. Correlations between Domestic Violence and Assault Arrests with DVI Scales

	Alcohol	Control	Drugs	Violence	Stress Coping
Domestic violence arrests	.179	.124	.100	.403	.090
Assault arrests	.124	.089	.120	.298	.080

Predictive validity results for the correct identification of problem behavior (violence tendencies, control, drinking and drug abuse problems) are presented in Table 48. Table 48 shows the percentage of offenders that had or admitted to having problems and who "scored in the problem risk range". For the Alcohol and Drugs Scales problem behavior means the offender "had alcohol or drug treatment." For the Violence Scale the offender "admitted to having a serious or moderate domestic violence problem." For the Control Scale the offender "admitted to dominating and controlling others." In these analyses scale scores in the Low risk range represent "no problem," whereas, scores in the Problem and Severe Problem risk ranges (70th percentile and higher) represent problems.

For the Alcohol Scale comparisons, there were 4,484 offenders who reported having been in alcohol treatment. These offenders are classified as problem drinkers. Of these 4,484 offenders, 4,282 individuals, or **95.5 percent**, had Alcohol Scale scores at or above the 70th percentile. The Alcohol Scale correctly identified nearly all (96%) of the offenders categorized as problem drinkers. These results support the DVI Alcohol Scale's validity.

The DVI Drugs Scale was also very accurate in identifying offenders who have had drug problems. There were 2,308 offenders who reported having been in drug treatment. Of these, 2,231 individuals, or **96.7 percent**, had Drugs Scale scores at or above the 70th percentile. These results strongly support the validity of the DVI Drugs Scale.

For Violence Scale comparisons there were 6,758 offenders who admitted having serious or moderate domestic violence problems. Of these 6,758 offenders, 6,630 individuals or **98.1 percent** had Violence Scale scores in the Problem or Severe Problem ranges. These results support the validity of the Violence Scale. Control Scale comparisons found that for the 4,110 offenders who admitted to dominating and controlling others, 4,001 or **97.3 percent** had Control Scale scores in the Problem or Severe Problem ranges. This result validates the Control Scale.

Table 48. Predictive Validity of the DVI (N = 37,024, 2005)

DVI Scale	Correct Identification of Problem Behavior
Alcohol	95.5%
Drugs	96.7%
Violence	98.1%
Control	97.3%

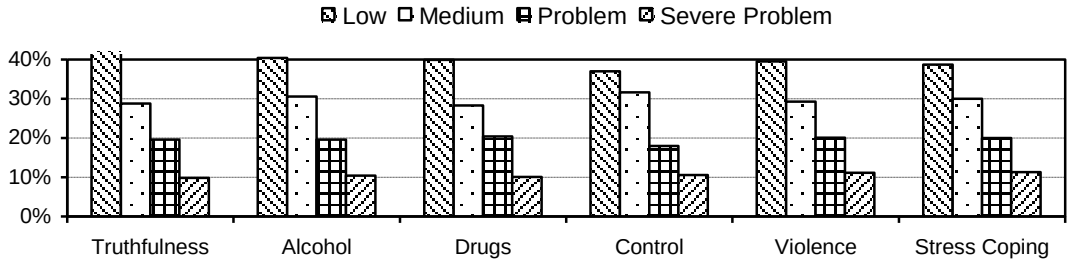
The Violence Scale accurately identified offenders (**98%**) who described their domestic violence problem as a serious or moderate problem. The direct admission of a domestic violence problem validates the Violence Scale. The correct identification of **97 percent** of the offenders who admitted to dominating and controlling others validates the Control Scale. The Alcohol and Drugs Scale accurately identified offenders who had alcohol and drug treatment. The Alcohol Scale correctly identified **96%** of the offenders categorized as problem drinkers and the Drugs Scale correctly identified **97%** of the offenders categorized as problem drug users. In comparison to other tests, this is very accurate assessment. These results strongly support the validity of the DVI Violence, Control, Alcohol and Drugs Scales.

Accuracy

Analysis of the accuracy of DVI risk range percentile scores involved comparing the offender's obtained risk range percentile scores to predicted risk range percentages as defined above. The percentages of offenders expected to fall into each risk range are: Low Risk (39%), Medium Risk (30%), Problem Risk (20%) and Severe Problem or Maximum Risk (11%). These percentages are shown in parentheses in the top row of Table 49. The actual percentage of offenders falling in each of the four risk ranges, based on their risk range percentile scores, was compared to these predicted percentages. The differences between predicted and obtained are shown in parentheses.

As shown in Table 49, DVI scale scores are very accurate. The objectively obtained percentages of participants falling in each risk range are very close to the expected percentages for each risk category. All of the obtained risk range percentages were within 2.0 percentage points of the expected percentages and many (17 of 24 possible) were within one percentage point. These results demonstrate very accurate domestic violence offender screening.

Table 49. Accuracy of DVI Risk Range Percentile Scores (N = 37,024, 2005)



Scale	Low Risk (39%)		Medium Risk (30%)		Problem Risk (20%)		Severe Problem (11%)	
Truthfulness Scale	41.8	(1.8)	28.8	(1.2)	19.6	(0.4)	9.8	(1.2)
Alcohol Scale	40.4	(1.4)	30.6	(0.6)	19.6	(0.4)	10.4	(0.6)
Control Scale	37.0	(2.0)	31.6	(1.6)	18.0	(2.0)	11.1	(0.1)
Drugs Scale	39.9	(0.1)	28.3	(1.7)	20.4	(0.4)	10.1	(0.9)
Violence Skills	39.5	(0.5)	29.3	(0.7)	20.1	(0.1)	11.1	(0.1)
Stress Coping Abilities	39.0	(0.0)	29.8	(0.2)	20.3	(0.3)	10.9	(0.1)

Gender differences between male and female scale scores are shown in Table 6.

Gender Differences

Table 50 below shows the average scale score results by gender. These results demonstrate significant male/female differences on all DVI scales. The Truthfulness, Alcohol and Violence Scales show that males scored significantly higher than females. The Control and Stress Coping Abilities Scales show that females scored significantly higher than males.

Table 50. Comparisons between Males and Females (N = 37,024, 2005)

DVI Scale	Males Mean	Females Mean	T-value	Significance
Truthfulness Scale	8.63	8.12	t =6.65	p<.001
Alcohol Scale	9.58	7.47	t = 13.75	p<.001
Control Scale	7.93	8.68	t = 6.99	p=.001
Drugs Scale	5.45	5.41	t = 0.32	p<.749
Violence Scale	24.91	19.77	t = 26.18	p<.001
Stress Coping Abilities	111.69	105.06	t = 11.22	p<.001

Note: The Stress Coping Abilities Scale is reversed because originally the higher the score the better one coped with stress. With the reversal, highly elevated (90^{th} percentile or higher) Stress Coping Abilities scores now indicate the presence of identifiable emotional or mental health problems.

These results demonstrate significant male/female differences on all DVI scales. The Truthfulness, Alcohol and Violence Scales show that males scored significantly higher than females. The Control and Stress Coping Abilities Scales show that females scored significantly higher than males. **These**

results demonstrate that separate scoring procedures are warranted for males and females. Accurate domestic violence assessment must take into account differences between male and female scale scores. With few exceptions (other than the DVI), other domestic violence tests rarely report this important research. Their rationalization is often stated "Most domestic violence perpetrators are male." They imply that female norms are not important. Yet, of the 37,024 domestic violence offenders that participated in the present study there were 6,543 (17.7%) female offenders. In the interest of accurate domestic violence offender assessment, any accurate contemporary test must include both male and female scoring distributions. This has been done in the Domestic Violence Inventory which has sex-related (male/female) distributions built into its scoring methodology.

35. Study of DVI in a State Probation Program

This study (2007) examined the DVI test statistics in a statewide probation program. Data were obtained from the agencies that administered the DVI. Offenders were tested throughout January 2007 to December 2007. There were 1,135 offenders included. DVI reliability, validity and accuracy were studied.

Method and Results

The participants in this study (2007) consisted of 1,135 offenders. There were 1,017 (89.6%) males and 118 (10.4%) females. Demographic composition of this sample is as follows. Age: 20 & under (9.1%); 21-30 (41.9%); 31-40 (29.0%); 41-50 (15.7%); 51-60 (3.9%) and 61 & Over (0.4%). Ethnicity: Caucasian (65.3%); African American (15.3%), Hispanic (13.1%), Asian (0.8%), Native American (3.4%) and Other (2.1%). Education: Eighth grade or less (2.3%); Some H.S. (32.2%); H.S. graduate/G.E.D. (47.7%); Some college (13.2%) and College graduate (4.7%). Marital Status: Single (54.5%), Married (22.6%), Divorced (15.2%), Separated (7.3%) and Widowed (0.4%).

Accuracy of the DVI

The accuracy of the six DVI measurement scales is presented in Table 50. Refer to previous studies for a discussion of this analysis.

Table 50. DVI Scales Risk Range Accuracy (2007, N = 1,135)

Scale	Low Risk (39%)		Medium Risk (30%)		Problem Risk (20%)		Severe Problem (11%)	
Truthfulness	38.4	**(0.6)**	30.8	**(0.8)**	19.1	**(0.9)**	11.6	**(0.6)**
Alcohol	39.6	**(0.6)**	29.9	**(0.1)**	20.0	**(0.0)**	10.5	**(0.5)**
Drugs	43.1	**(4.1)**	26.2	**(3.8)**	19.8	**(0.2)**	10.9	**(0.1)**
Control	37.7	**(1.3)**	30.7	**(0.7)**	21.2	**(1.2)**	10.3	**(0.7)**
Violence	41.0	**(2.0)**	30.7	**(0.7)**	18.4	**(1.6)**	9.9	**(1.1)**
Stress Coping	39.0	**(0.0)**	29.7	**(0.3)**	20.3	**(0.3)**	11.0	**(0.0)**

All but two offender-obtained risk range percentages were within 2.0 percentage points of the predicted percentages. Offenders scale scores were 98 percent accurate. These results empirically demonstrate that DVI scales accurately measure offender risk.

Reliability of the DVI

Within-test reliability, or inter-item reliability coefficient alphas for the DVI are presented in Table 51.

Table 51. DVI reliability coefficient alphas (2007, N = 1,135)

DVI Scale	Coefficient Alpha	Significance Level
Truthfulness Scale	.89	.001
Alcohol Scale	.95	.001
Drugs Scale	.92	.001
Control Scale	.88	.001
Violence Scale	.90	.001
Stress Coping Scale	.93	.001

Alpha coefficients for all scales were .88 and above. These results are similar to those reported in previous studies for entirely different populations of offenders and empirically demonstrate that the DVI is a highly reliable offender risk assessment test.

Validity of the DVI

Predictive validity analysis involves comparing the Low Risk (zero to 39th percentile range) and High Risk (70th to 100th percentile range) groups, on the basis of having previously received treatment versus no treatment. The Domestic Violence Inventory Alcohol Scale correctly identified 100 percent of the offenders that had been treated for drinking problems. Similarly, the Drugs Scale correctly identified 100 percent of the offenders that had been treated for drug problems. The Violence Scale correctly identified 99 percent of offenders that admitted being explosive, destructive and violent. The Control Scale correctly identified 100 percent of offenders that admitted being dominating and controlling. The Domestic violence Inventory is a valid assessment instrument.

Discussion

This study demonstrated that accurate domestic violence offender assessment is achieved with the DVI. Results corroborate and support the Domestic Violence Inventory as an accurate assessment test for domestic violence offenders. The DVI accurately measures offender risk of violence (lethality), substance (alcohol and drugs) abuse, controlling behaviors, and mental health problems. Results demonstrate that repeat domestic violence offenders have more problems than first offenders.

Reliability results demonstrated that all six DVI scales are highly reliable. All alpha coefficients were at or above 0.86. Such high reliability is very impressive. Evaluators can be confident that DVI scale scores can be reliably reproduced on retest. These results demonstrate that the DVI is a reliable test.

Validity analyses confirm that the Domestic Violence Inventory measures what it purports to measure, that is, domestic violence offender risk. The DVI accurately identified domestic violence offenders who have serious violence-related problems. Multiple offenders (having prior domestic violence arrests) scored significantly higher than first offenders (discriminate validity). Moreover, the Violence Scale identified 98% of the offenders who admitted having domestic violence problems. The Control Scale correctly identified 97% of the offenders who admitted dominating and controlling others. The Alcohol and Drugs Scales correctly identified offenders who have had treatment for alcohol and drugs, 96% and 97%, respectively (predictive validity). And, obtained risk range percentages on all DVI

scales very closely approximated predicted percentages. All DVI scale classifications of offender risk were within 2% of predicted risk range percentile scores. These results strongly support the accuracy of the DVI.

These results demonstrate that we can accurately measure a person's probability of engaging in domestic violence. In the DVI this is accomplished with the Violence (lethality) Scale which measures the severity of violent tendencies. At the same time we can also identify many of the exacerbating conditions that act as domestic violence triggering mechanisms. In the DVI the severity of these triggering mechanisms is measured by the Alcohol Scale, Drugs Scale, Control Scale and Stress Coping Abilities Scale. Low scale scores are associated with low levels of supervision as well as intervention and treatment, whereas high scale scores relate to more intense intervention/treatment recommendations and levels of supervision.

36. Study of the DVI Pre-Post Inventory with a Large Sample

This study (2009) summarizes DVI Pre-Post Inventory results for 4,680 domestic violence offenders. The DVI Pre-Post Inventory was introduced on page 32 of this document. Offenders are initially administered the DVI pre-test. They then under-go treatment and are subsequently administered the DVI post-test. Differences between pre-test and post-test scores indicate the success of the treatment/intervention. Offenders were tested throughout the United States during the 8 ½ year time-period beginning in January, 2000 and ending in July, 2008. The purpose of this study was to evaluate the accuracy, reliability, and validity of the DVI Pre-Post Inventory by analyzing results from the 4,680 DVI pre-test administrations, (of which there are a far greater number than post-test administrations (N=1,138)). Additionally, pre-post test comparisons are made for the 756 offenders for whom both pre-test and post-test data was available.

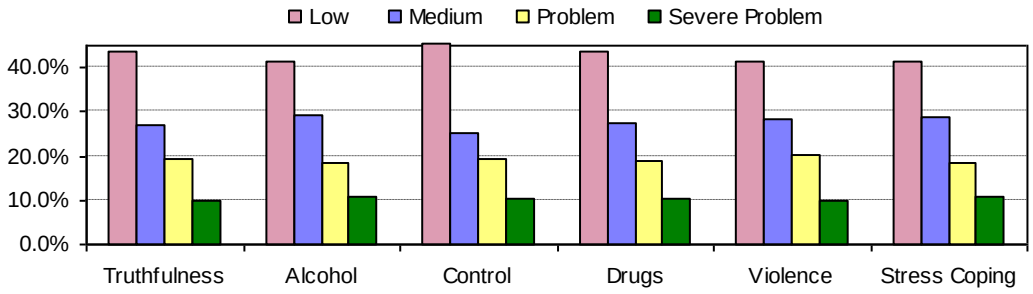
Method

There were 4,680 domestic violence offenders included in this study (2009). There were 4,161 males (88.9%) and 512 females (10.9%). The demographic composition of this sample is as follows: Age: 19 and under (3.0%), 20 - 29 (33.6%), 30 - 39 (33.3%), 40 - 49 (22.0%), 50 - 59 (5.4%) and 60 and over (1.4%). Ethnicity: Caucasian (58.7%); African American (12.1%); Hispanic (20.1%); Asian (2.0%); Native American (2.0%); "other" (4.2%). Education: 8th grade or less (4.2%); some High School (17.4%); G.E.D. (11.8%); High School graduate (37.1%); some college (15.7%); technical/ business school (1.8%); college graduate (4.2%); professional/graduate school (1.0%). Marital Status: single (43.3%); married (35.6%); divorced (10.2%); separated (5.8%); widowed (0.3%).

Accuracy

Test accuracy is demonstrated by how close attained scale scores are to predicted scores. Four categories of risk are assigned: Low Risk (zero to 39th percentile), Medium Risk (40 to 69th percentile), Problem Risk (70 to 89th percentile), and Severe Problem Risk (90 to 100th percentile). The top row of Table 52 shows the percentages of clients that were predicted to score within each risk range. (These predicted percentages for each DVI Pre-Post Inventory scale risk category were obtained from DVI Pre-Post Inventory standardization data.) The body of Table 52 presents actual attained risk category percentages. Differences between attained and predicted percentages are shown in bold in parentheses. For example, in terms of the Problem Risk range for the Truthfulness Scale: 20% of clients were predicted to score within this range; the attained percentage of clients who scored in this range was 19.2%, which is a difference of 0.8 percentage points from what was predicted.

Table 52. DVI Pre-Post Inventory Accuracy (N = 4,680, 2009)



Scale	Low Risk (39%)		Medium Risk (30%)		Problem Risk (20%)		Severe Problem (11%)	
Truthfulness	43.7	**(4.7)**	27.0	**(3.0)**	19.2	**(0.8)**	10.1	**(0.9)**
Alcohol	41.2	**(2.2)**	29.3	**(0.7)**	18.5	**(1.5)**	11.0	**(0.0)**
Control	45.6	**(6.6)**	25.0	**(5.0)**	19.2	**(0.8)**	10.2	**(0.8)**
Drugs	43.6	**(4.6)**	27.5	**(2.5)**	18.7	**(1.3)**	10.2	**(0.8)**
Violence	41.4	**(2.4)**	28.3	**(1.7)**	20.3	**(0.3)**	10.0	**(1.0)**
Stress Coping	41.4	**(2.4)**	29.0	**(1.0)**	18.6	**(1.4)**	11.0	**(0.0)**

*Note: For respondents who scored in the 95th percentile or higher on the Truthfulness Scale (thereby invalidating other Scale scores), only their Truthfulness Scale scores were included in this analysis; thus, the sample size for the remaining five Scales was slightly smaller- less by 331 (the number of offenders with invalid Scale scores).

Twenty-two out of 24 attained risk range percentiles were within **4.7** points of the predicted percentages**.** The average difference between attained percentages and predicted percentages was **1.9** points. These results strongly support the accuracy of the DVI Pre-Post Inventory as a domestic violence offender assessment instrument.

Reliability

Test reliability refers to a scale's consistency of measurement. A scale is reliable if a person gets the same score when re-tested as he/she did when originally tested. Table 53 shows the reliability scores for each DVI Pre-Post Inventory scale. Perfect reliability is 1.00.

Table 53. DVI Pre-Post Inventory Reliability Coefficient Alphas (N = 4,680, 2009)

DVI Pre-Post Scale	Alpha coefficient
Truthfulness Scale	**.89**
Alcohol Scale	**.87**
Control Scale	**.84**
Drugs Scale	**91**
Violence	**.89**
Stress Coping Abilities Scale	**.93**

All DVI Pre-Post Inventory scales have a reliability of **.84** or higher. The professionally accepted reliability standard is .75. All DVI Pre-Post Inventory scales exceed this standard and demonstrate very impressive reliability.

Validity

Validity refers to a test's ability to measure what it is purported to measure. The quality of a test is largely determined by its validity. Concurrent validity correlates the independent scales of the test being validated with corresponding measures from another established test. This type of validation (concurrent validation) has been conducted in numerous studies, which are presented earlier in this document.

Predictive validity refers to a test's ability to predict observable "criterion" behaviors. In this analysis, our prediction criterion was whether or not offenders considered themselves to have alcohol and/or drug problems. Direct self-admissions were utilized. It was predicted that the self-admitted "problem drinkers" and self-admitted "problem drug users" would be identified by their higher scores on the Alcohol and/or Drugs Scales. More specifically, it was predicted that a large percentage of these offenders would have Alcohol and/or Drugs Scale scores that fell within the 70th and 100th percentile range (the High Risk range). The possibility of these offenders scoring in the Low Risk range (zero to 69th percentile) was not discounted altogether; however, it was expected that a significantly higher percentage of these individuals would score within the High Risk range on the Alcohol and/or Drugs Scales than the Low Risk range. The results of the analysis confirmed these predictions. Almost all **(98.2%)** of offenders who admitted to having alcohol problems scored in the High Risk range on the Alcohol Scale. Additionally, almost all **(98.3%)** of offenders who admitted to having drug problems scored in the High Risk range on the Drugs Scale. These findings indicate that the Alcohol and Drugs Scales accurately identify offenders who admit to having alcohol and/or drug problems.

Another analysis was performed for the Violence Scale. Two comparative groups- "violent offenders" and "non-violent offenders"- were established using direct admissions. Unlike non-violent offenders, violent offenders made the self-admission that, "To be honest, I am a violent person". It was predicted that a large percentage of violent offenders would score within the High Risk range (70th to 100th percentile) on the Violence Scale. Analysis results confirmed this prediction. The majority **(90.6%)** of violent offenders were Violence Scale "High Risk" offenders. The Violence Scale accurately identifies violent offenders. This finding, along with those from the Alcohol and Drugs Scales analyses above, provide strong support for the predictive validity of the DVI Pre-Post Inventory.

In the following validity analyses, the prediction criterion was offender status. By comparing the scale scores of First and Multiple Offenders, the analyses examined whether test scales could distinguish between offenders with known different levels of problem severity. In the first analysis, it was predicted that *Violent* Multiple Offenders (two or more domestic violence or general assault arrests) would obtain significantly higher Control Scale, Violence Scale, and Stress Coping Abilities Scale scores than *Violent* First Offenders (one or no domestic violence or general assault arrests). *T*-test results (presented in Table 54) revealed that Violent Multiple Offenders did indeed score significantly higher than Violent First Offenders on all three scales.

Table 54. *T*-test Comparisons between *Violent* First and Multiple Offenders (N=4,980, 2009)

Scale	Mean Scores First Offenders	Mean Scores Multiple Offenders	*t*-value	Cohen's *d* (effect size)
Truthfulness	53.3	46.3	7.66	0.26*
Control	39.2	46.0	-6.73	0.23*
Violence	54.5	76.5	-29.54	0.94***
Stress Coping Abilities	48.5	56.0	-7.30	0.25*

*Small effect; **Medium effect; ***Large effect

[a]Note: For respondents who scored in the 95th percentile or higher on the Truthfulness Scale (thereby invalidating other Scale scores), only their Truthfulness Scale scores were included in this analysis; thus, the sample size for the remaining three Scales was slightly smaller- less by 331- the number of offenders with invalid Scale scores).

In the next two analyses analysis, it was predicted that *Alcohol* Multiple Offenders (two or more alcohol-related arrests) would obtain significantly higher Alcohol Scale scores than *Alcohol* First Offenders (one or no alcohol-related arrests), and that *Drugs* Multiple Offenders (two or more drug-related arrests) would obtain significantly higher Drugs Scale scores than *Drugs* First Offenders (one or no drug-related arrests). Again, predictions were confirmed. (See Table 55 for *t*-test results).

Table 55. *T*-test Comparisons between *Alcohol* & *Drug* First and Multiple Offenders (N=4,649, 2009)

Scale	Mean Scores First Offenders	Mean Scores Multiple Offenders	*t*-value	Cohen's *d* (effect size)
Alcohol	29.2	64.8	-33.08	1.33***
Drugs	36.8	75.8	-26.89	1.49***

*Small effect; **Medium effect; ***Large effect

These results strongly support the predictive validity of the DVI Pre-Post Inventory. This is important because it shows that the Alcohol, Control, Drugs, Violence, and Stress Coping Abilities Scales do accurately measure levels of severity. The scales effectively discriminate between offenders who are known to have more severe problems (Multiple Offenders) and First Offenders.

Pre-test/Post-test Comparisons

A comparison of an offender's pre-test scores (obtained prior to treatment/intervention) and post-test scores (obtained during or following treatment/intervention) gives an indication of whether (and to what extent) the treatment/intervention was successful. The present sample included 756 cases for which both pre-test and post-test data was obtained. The average amount of time between pre-test and post-test was approximately 8.5 months. Table 56 presents average pre-test scores, average post-test scores, pre-post differences, and *t*-test results for each DVI Pre-Post Inventory scale .

Table 56. Comparisons between Pre-test and Post-test scores (N=756[a], 2009)

Scale	Mean Score Pre-Test	Mean Score Post-Test	Difference	*t*-value
Truthfulness	60.6	58.3	-2.3	2.50*
Alcohol	35.3	31.5	-3.8	4.15**
Control	43.5	35.6	-7.9	6.65**
Drugs	39.7	34.7	-5.1	4.58**
Violence	63.5	49.2	-14.3	14.65**
Stress Coping Abilities	52.9	41.5	-11.4	10.17**

*Significant at p <.05; **Significant at p <.01

[a]Note: For respondents who scored in the 95th percentile or higher on the Truthfulness Scale (thereby invalidating other Scale scores), only their Truthfulness Scale scores were included in this analysis; thus, the sample size for the remaining five Scales was slightly smaller- less by 113- the number of offenders with invalid Scale scores).

All Scale scores significantly decreased from pre-test to post-test. In other words, offenders exhibited considerable improvement in the areas measured by DVI Pre-Post Scales from pre-test to post-test. One might contest the validity of these "improvements" by questioning how truthful offenders were while completing the post-test. As a direct result of learning what is "right" and "correct" in treatment, offenders also get an idea of what the desired responses to test items are, and so may select those responses fraudulently. However, as shown in Table 56, average Truthfulness Scale post-test scores were actually lower than average pre-test scores, indicating that offenders were more truthful in their responses the second time around. Judging from these results, it can be determined that the impact of treatment/intervention on the average offender in the sample was significantly constructive.

37. Study of the DVI with a large sample of domestic violence offenders

This study (2010) summarizes Domestic Violence Inventory (DVI) results for **10,676** adult domestic violence offenders. The DVI was introduced on page one (1) of this document. Domestic violence offenders were tested during the time-period beginning in January 2003 and ending in March 2010. DVI test data was gathered online. The purpose of this study was to evaluate the accuracy, reliability, and validity of the DVI by analyzing results from the 10,676 DVI test administrations.

Method

There were 10,676 domestic violence offenders included in this study (2010). There were 8,187 males (76.7%) and 2,489 females (23.3%). The demographic composition of this sample is as follows: Age: 19 and under (11.8%), 20-29 (38.3%), 30-39 (30.5%), 40-49 (15.7%), 51-60 (3.4%) and 61 and over (0.3%). Ethnicity: Caucasian (71.7%); African American (9.7%); Hispanic (14.4%); Asian (2.0%); Native American (1.4%); Other (0.8%). Education: 8th grade or less (5.5%); some High School (26.6%); GED (9.5%) High School Graduate (34.9%); Some College (14.4%); Trade/Technical School (2.9%); College Graduate (5.1%); Advanced Degree (1.3%) Marital Status: Single or Never Married (46.1%); Married (31.9%); Divorced (12.8%) Separated (8.8%); Widowed (0.5%).

Reliability

Test reliability refers to a scale's consistency of measurement. A scale is reliable if a person gets a similar score when re-tested as he/she did when originally tested. Table 57 shows the reliability scores for each DVI scale. Perfect reliability is 1.00.

Table 57. DVI Reliability Coefficient Alphas (N = 10,676, 2010)

DVI Pre-Post Scale	Alpha coefficient
Truthfulness Scale	**.88**
Alcohol Scale	**.94**
Control Scale	**.88**
Drugs Scale	**.94**
Violence	**.89**
Stress Coping Abilities Scale	**.93**

All Domestic Violence Inventory (DVI) scales have reliability coefficients of **.88** or higher. The professionally accepted standard for reliability is .75. All Domestic Violence Inventory (DVI) scale reliability coefficients exceed this standard and demonstrate exceptional reliability.

Accuracy

Test accuracy is demonstrated by the difference between attained and predicted scores. Small differences represent high accuracy. Four risk categories are assigned: Low Risk (zero to 39th percentile), Medium Risk (40 to 69th percentile), Problem Risk (70 to 89th percentile), and Severe Problem Risk (90 to 100th percentile). The top row of Table 58 shows the percentages of offenders that were predicted to score within each risk range. These predicted percentages for each DVI scale risk category were obtained from DVI standardization data. The body of Table 58 presents actual attained risk category percentages. Differences between attained and predicted percentages are shown in bold in parentheses. For example, in terms of the Problem Risk range for the Truthfulness Scale: 20% of clients were predicted to score within this range; the attained percentage of clients who scored in this range was 18.3%, which is a difference of 1.7 percentage points from the predicted percentage.

Table 58. DVI Accuracy (N=10,676, 2010)

Scale	Low Risk (39%)		Medium Risk (30%)		Problem Risk (20%)		Severe Problem (11%)	
Truthfulness	39.6	**(0.6)**	32.1	**(2.1)**	19.2	**(0.8)**	9.1	**(1.9)**
Alcohol	41.4	**(2.4)**	29.7	**(0.3)**	18.7	**(1.3)**	10.1	**(0.9)**
Control	40.6	**(1.6)**	31.1	**(1.1)**	18.2	**(1.8)**	10.1	**(0.9)**
Drugs	39.2	**(0.2)**	30.5	**(0.5)**	17.9	**(2.1)**	12.4	**(1.4)**
Violence	41.5	**(2.5)**	29.3	**(0.7)**	19.1	**(0.9)**	10.0	**(1.0)**
Stress Coping	40.4	**(1.4)**	29.5	**(0.5)**	19.8	**(0.2)**	10.2	**(0.8)**

All (24 out of 24) attained risk range percentiles were within **2.5** points of the predicted percentages**.** These results strongly support the accuracy of the DVI as a domestic violence offender assessment instrument.

Validity

Validity refers to a test's ability to measure what it is purported to measure. The quality of a test is largely determined by its validity. Concurrent validity correlates the independent scales of the test being validated with corresponding measures from another well-established test. This type of validation (concurrent validation) has been conducted in numerous studies of the DVI, which are presented earlier in this document.

Predictive validity refers to a test's ability to predict observable "criterion" behaviors. In this analysis, our prediction criterion was whether or not offenders were being treated for alcohol and/or drug problems. Offenders responded "true" or false" to whether they had alcohol-related or drug-related problems. It was predicted that the offenders that admitted to having an alcohol and/or drug problem would be identified by their higher scores on the Alcohol and/or Drugs Scales. More specifically, it was predicted that a large percentage of these offenders would have Alcohol and/or Drugs Scale scores that fell within the 70^{th} and 100^{th} percentile range (the elevated risk range). The possibility of these offenders scoring in the non-problematic risk range (zero to 69^{th} percentile) was not discounted altogether; however, it was expected that a significantly higher percentage of would score within the elevated risk range on the Alcohol and/or Drugs Scales than the non-problem range. The results of the analysis confirmed these predictions. All **(15 out of 15, or 100.0%)** offenders that admitted to having an alcohol-related problem scored in the elevated risk range on the Alcohol Scale. Additionally, all **(23 out of 23, or 100.0%)** of the offenders that identified themselves as having drug problems scored in the elevated range on the Drugs Scale. These findings indicate that the Alcohol and Drugs Scales accurately identify offenders that admit to having alcohol and/or drug problems.

Another analysis was performed for the Violence Scale. Two comparative groups- "violent offenders" and "non-violent offenders"- were established using direct admissions. It was predicted that a large percentage of self-admitted "violent" offenders would score within the Elevated Risk range (70^{th} to 100^{th} percentile) on the Violence Scale. Analysis results confirmed this prediction. The majority **(10 out of 11, or 90.9%)** of violent offenders attained scores in the elevated risk (70^{th} to 100^{th} percentile) range on the Violence Scale. The Violence Scale accurately identifies violent offenders. This finding, along with those from the Alcohol and Drugs Scales analyses above, provide strong support for the predictive validity of the DVI.

For the following validity analyses, the prediction criterion was offender status. By comparing the scale scores of First and Multiple Offenders, the analyses examined whether test scales could distinguish between offenders with known different levels of problem severity.

In the first analysis, it was predicted that *Violent* Multiple Offenders (two or more domestic violence or two or more assault arrests) would obtain significantly higher Control Scale, Violence Scale, and Stress Coping Abilities Scale scores than *Violent* First Offenders (one or no domestic violence or general assault arrests). *T*-test results (presented in Table 59) demonstrated that Violent Multiple Offenders did indeed score significantly higher than Violent First Offenders on all three scales.

Table 59. *T*-test Comparisons between *Violent* First and Multiple Offenders (N=10,676[a], 2010)

Scale	Mean Scores First Offenders	Mean Scores Multiple Offenders	*t*-value	Cohen's *d* (effect size)
Truthfulness	8.20	7.04	4.13	*d*=0.49
Control	6.09	9.86	-11.59	*d*=0.53
Violence	26.68	54.32	-11.75	*d*=1.62
Stress Coping Abilities	113.58	99.20	7.00	*d*=0.34

*Small effect; **Medium effect; ***Large effect

In the next two analyses, it was predicted that *Alcohol* Multiple Offenders (two or more alcohol-related arrests) would obtain significantly higher Alcohol Scale scores than *Alcohol* First Offenders (one or no alcohol-related arrests), and that *Drugs* Multiple Offenders (two or more drug-related arrests) would obtain significantly higher Drugs Scale scores than *Drugs* First Offenders (one or no drug-related arrests). Again, predictions were confirmed. (See Table 60 on the following page for *t*-test results).

Table 60. *T*-test Comparisons of *Alcohol* & *Drug* First and Multiple Offenders (N=10,676[a], 2010)

Scale	Mean Scores First Offenders	Mean Scores Multiple Offenders	*t*-value	Cohen's *d* (effect size)
Alcohol	7.40	21.00	-51.16	*d*=1.14
Drugs	6.83	20.55	-38.48	*d*=1.23

*Small effect; **Medium effect; ***Large effect

These results strongly support the predictive validity of the DVI. This is important because it shows that the Alcohol, Control, Drugs, Violence, and Stress Coping Abilities Scales do accurately measure levels of severity. The scales effectively discriminate between offenders who are known to have more severe problems (Multiple Offenders) and First Offenders.

38. DVI Reliability Study in Three Samples of Domestic Violence Offenders

Four domestic violence offender samples were included in the present study (2010) to further investigate DVI reliability in different offender samples. The groups represented domestic violence defendants from different geographical areas of the country, but the offender assessment programs were similar. With expanded use of the DVI across the country and Canada, it is important to establish the applicability of the DVI in different locations and assessment programs. The purpose of the present study (2010) was to investigate reliability of the DVI in different domestic violence offender samples.

Method

The Domestic Violence Inventory (DVI) was administered to three groups of domestic violence offenders. There were a total of 1,767 offenders included in this study (2010).

Group 1 consisted of 455 domestic violence offenders. This sample included 363 (79.8%) males and 92 (20.2%) females. The demographic composition of Group 1 is as follows: Age: 16 to 20 years (8.2%), 21 to 25 (19.2%), 26 to 30 (17.4%), 31 to 35 (17.9%), 36 to 40 (13.7%), 41 to 45 (10.8%); 46 to 50 (7.1%), 51 to 55 (3.5%), 56 to 60 (1.1%) and 61 and older (1.1%). Ethnicity: Caucasian (54.8%),

Black (29.6%), Hispanic (11.0%), Asian (1.4%), Native American (1.1%) and Other (2.1%). Education: 8th grade or less (5.2%), Some High School (22.1%), G.E.D. (9.6%), High School Graduate (38.7%), Some College (12.8%), Trade/Technical School (1.8%), College Graduate (8.7%), and Professional/Graduate School (1.1%). Marital Status: Single (44.9%), Married (41.6%), Divorced (5.4%), Separated (7.7%), and Widowed (0.5%).

Group 2 consisted of 1,026 domestic violence offenders. There were 886 males (86.4%) and 140 females (13.6%). The demographic composition of this sample is as follows: Age: 16 to 20 years (11.0%), 21 to 25 (21.2%), 26 to 30 (19.8%), 31 to 35 (13.9%), 36 to 40 (11.1%), 41 to 45 (8.9%), 46 to 50 (6.7%), 51 to 55 (4.4%), 56 to 60 (1.8%) and 61 and over (1.3%). Ethnicity: Caucasian (63.6%), Black (20.8%), Hispanic (8.4%), Asian (4.0%), American Indian (0.8%) and Other (2.4%). Education: 8th grade or less (4.4%), Some High School (24.5%), G.E.D. (8.8%), High School Graduate (34.1%), Some College (15.8%), Technical/Business School (6.7%) College Graduates (4.3%) and Professional/Graduate School (1.3%). Marital Status: Single (62.8%), Married (18.7%), Divorced (11.6%), Separated (6.6%) and Widowed (0.3%).

Group 3 consisted of 286 domestic violence offenders. There were 227 males (79.4%) and 59 females (20.6%). The demographic composition of this sample is as follows: Ethnicity: Caucasian (75.8%), Black (1.8%), Hispanic (21.7%), and Native American (0.7%). Education: 8th grade or less (7.2%), Some High School (17.4%), G.E.D. (12.3%), High School Graduate (41.3%), Some College (16.7%), Technical/Business School (0.7%), College Graduates (3.6%), and Professional/Graduate School (0.8%). Marital Status: Single (35.4%), Married (44.2%), Divorced (13.5%) and Separated (6.9%).

Reliability coefficient alphas are presented in Table 61. The total number of domestic violence offenders included in this reliability study was 1,767.

Table 61. Reliability coefficient alphas. 1,767 domestic violence offenders (2010)
All coefficient alphas are significant at p<.001.

DVI Scale	1 DV Offenders N = 455	2 DV Offenders N = 1,026	3 DV Offenders N = 286
Truthfulness	.87	.87	.86
Control Scale	.86	.94	.94
Alcohol Scale	.93	.94	.93
Drug Scale	.92	.88	.91
Violence Scale	.89	.85	.88
Stress Coping Abilities	.93	.94	.93

These results support the internal consistency (reliability) of the DVI. All coefficient alphas are significant at p<.001. The DVI is demonstrated to be a reliable domestic violence offender assessment instrument in different offender samples. These results indicate that the DVI is applicable to widely varied geographically regions of the US and Canada.

39. A Study of the DVI Pre-Post Inventory

This study (2010) summarizes results for the DVI Pre-Post for 324 domestic violence offenders. The DVI Pre-Post was introduced on page 32 of this document. The DVI Pretest is administered before domestic violence treatment and then the DVI Posttest is administered after treatment. The DVI Pretest and DVI Posttest are identical to one another; the only difference is that one is administered pre-treatment and the other is administered post-treatment. This study includes results of DVI Pretest and Posttest administrations for the 324 tested offenders.

Method

There were 324 domestic violence offenders included in this study (2010). There were 324 males (100.0%). There were no female domestic violence offenders in this sample. The demographic composition of this sample is as follows: Age: 19 and under (2.2%), 20 - 29 (31.5%), 30 - 39 (30.9%), 40 - 49 (27.2%), 50 - 59 (7.1%) and 60 and over (1.2%). Ethnicity: Caucasian (80.4%), Black (11.8%), Hispanic (3.1%), Asian (0.9%), Native American (2.2%) and Other (1.6%). Education: 8th grade or less (0.0%), Some High School (12.2%), G.E.D. (6.7%), High School graduate (43.3%), Some college (21.8%), Technical/Business school (6.4%), College graduate (8.0%) and Professional/Graduate school (1.6%). Marital Status: Single (45.9%), Married (35.0%), Divorced (10.8%), Separated (8.3%) and Widowed (0.0%).

Reliability of the DVI-Pre-Post

As shown in Table 62, the DVI Pre-Post has impressive reliability.

Table 62. Reliability of the DVI Pre-Post (2010, N = 324)

All coefficient alphas are significant at p<.001.

DVI SCALES	Coefficient Alphas
Truthfulness Scale	.92
Alcohol Scale	.83
Drug Scale	.83
Violence Scale	.87
Control Scale	.85
Stress Coping Abilities	.90

Reliability coefficients for all scales are well above the professionally-accepted assessment standard (.75). These results show that the DVI Pre-Post Inventory is a reliable domestic violence offender assessment instrument.

Accuracy of the DVI Pre-Post

Risk range percentile scores represent degree of severity. Accuracy of the DVI Pre-Post scale scores is determined by the closeness of obtained scores to the predicted risk range percentages as shown in the table below. The actual percentages of offenders falling in each of the four risk ranges are presented in the graph and table below.

Table 63. DVI Pre-Post Risk Range Percentile Scores (2010, N = 324)

Risk Range	Truthfulness %	Alcohol %	Drug %	Control %	Violence %	Stress Coping %	**Predicted %**
Low	40.4	44.4	42.6	43.8	41.4	37.9	**39%**
Medium	31.2	28.4	29.0	30.1	31.8	31.5	**30%**
Problem	19.1	17.6	17.9	17.9	19.9	19.4	**20%**
Severe Problem	9.3	9.6	10.5	8.2	6.9	11.2	**11%**

The majority of the attained risk ranges had a difference of 3.6 points from the predicted percentages. The exceptions, the Low Risk ranges of the Alcohol Scale and Control Scale and the Severe Problem range of the Violence Scale were a difference of 5.4 points, 4.9 points and 4.1 points (respectively) from the predicted percentages. Some statistical variance is expected due to the small sample size of 324.

The results presented in Table 63 show that most of the obtained risk range percentile scores closely approximated the predicted risk range percentile scores for each of the six DVI Pre-Post scales. **These results indicate that the DVI Pre-Post is an accurate domestic violence offender risk assessment instrument.**

Validity of the DVI Pre-Post

To mirror previous research studies, t-test comparisons of first offenders and multiple offenders were conducted to determine the discriminant validity of the DVI Pre-Post. First offenders are defined as having no more than one domestic violence arrest; multiple offenders have two or more domestic violence arrests. These results are presented in Table 64.

Table 64. T-test comparisons between first offenders and multiple offenders (2010, N=991)
Offender status defined by number of domestic violence and assault arrests

DVI Pre-Post Scale	**First Offenders Mean**	**Multiple Offenders Mean**	**T-value**	**Level of significance**
Truthfulness Scale	6.72	8.65	-3.06	p<.001
Control Scale	6.17	7.41	-1.39	p<.001
Violence Scale	17.31	26.28	-6.45	p<.001
Stress Coping Abilities	118.23	122.67	-0.85	n.s.

Table 65. T-test comparison of Alcohol Scale between first offenders and multiple offenders.
Offender status defined by number of alcohol-related arrests.

DVI Pre-Post Scale	First Offenders Mean	Multiple Offenders Mean	T-value	Level of significance
Alcohol Scale	2.57	10.54	-12.42	p<.001

Table 66. T-test comparison of Drug Scale between first offenders and multiple offenders.
Offender status defined by number of drug-related arrests.

DVI Pre-Post Scale	First Offenders Mean	Multiple Offenders Mean	T-value	Level of significance
Drug Scale	2.28	12.50	-9.60	p<.001

The results for the Alcohol, Drug, Control and Violence Scales show that multiple offenders attain significantly higher (more severe) average scores than first offenders. The average Stress Coping Scale scores of first and multiple offenders were comparable. The Alcohol, Drug, Control and Violence Scales accurately differentiated between first offenders and multiple offenders. These results show that having alcohol, drug, assault or domestic violence arrests is associated with having higher severity levels for substance use/abuse and control and violence problems. **These t-test results strongly support the discriminant validity of DVI Pre-Post scales.**

Predicting Recidivism

The prediction of *number of domestic violence arrests* shows that the DVI Pre-Post accurately predicts domestic violence re-arrest, F=27.37, p<.001, R=.599. These results strongly support the prediction accuracy of the DVI Pre-Post. The prediction of recidivism for domestic violence arrests contains the following predictor variables: 1. *Age at first conviction*, 2. *Total number of times arrested*, 3. *Number of alcohol arrests*, 4. *Number of drug arrests*, 5. *Truthfulness Scale*, 6. *Control Scale*, and 7. *Violence Scale*. The best predictor variable, by a wide margin, was the Violence Scale. These results show that together, criminal history and DVI Pre-Post scale scores accurately predict domestic violence offender recidivism (domestic violence re-arrest).

These results strongly support the reliability, validity and accuracy of the DVI Pre-Post Inventory. Discriminant validity of the Alcohol Scale, Drug Scale, Control Scale, Violence Scale and Stress Coping Abilities Scale is well established. Predictive validity of the Alcohol Scale, Drug Scale and Violence Scale is strongly supported. Recidivism predictions of domestic violence arrests show that the DVI Pre-Post achieves high prediction accuracy. These results show that the DVI Pre-Post Inventory is a very reliable, valid and accurate domestic violence offender assessment instrument.

By design, the DVI Pre-Post Inventory is an outcome measure. It was developed as an assessment tool to help determine the effects of domestic violence treatment.

The DVI Pretest is administered at intake, which is followed by an intervention program. The intervention duration can vary from agency to agency.

The DVI Posttest is administered at a chosen interval of time during or after the intervention program has been in place. The intervention may be six months, nine months, a year or longer. Consequently, DVI Posttest usage varies widely from agency to agency.

DVI Pre-Test and Post-Test comparisons

A total of one hundred sixty-two (162) domestic violence offenders were given both the DVI Pretest and the DVI Posttest in a domestic violence intervention program in the Midwestern U.S. The Pre-Test was administered prior to beginning the program and the Post-Test was administered upon program completion. While this sample (n=162) is small, it is large enough to allow simple comparisons between offender scores for the two test administrations.

These comparisons are helpful in determining the effect of a particular program on the attitude and behavior of participating domestic violence offenders.

All DVI Pre-Post risk scales had significantly lower average scores at Posttest compared to average scores at Pretest. *Higher scale scores mean more severe problems. Lower Posttest scores show that treatment was successful in reducing the severity of offenders' problems relative to domestic violence related issues and behaviors.*

Average Alcohol Scale and Drugs Scale risk scores also fell significantly at Posttest, but the differences in Posttest scores for these two scales was much less dramatic than the difference seen in the other DVI scales. Most therapists would agree that offenders with substance (alcohol and drugs) abuse problems may require long-term treatment before positive progress becomes evident. The average Alcohol Scale score was 7.06 at Pretest and 6.57 at Posttest, $t(323) = 1.31$, $p<.001$, $d = 0.14$, and the average Drugs Scale score was 3.15 at Pretest and 2.26 at Posttest, $t(323) = 1.45$, $p<.001$, $d = 0.16$. Both Alcohol Scale scores and Drugs Scale scores were significantly lower at Posttest compared to Pretest.

There was a significant improvement in the percentage of offenders that reported they had become less violent over the past month (30 days); 54.0% at pre-test compared to 85.8% at posttest (t=-5.4, $p<.001$). This is a strong indication of the success of treatment. Though the differences were not always statistically significant, the average score for nearly every self-reported risk factor declined between pre- and post-testing. **Statistically significant changes (significant at p<.001) include:**

> *How would you describe your temper?* (response choices are: 1. a serious problem, 2. moderate problem, 3. mild problem, 4. not a problem). The Pretest mean score was 2.87; Posttest mean was 3.25 (higher=better).
>
> *How would you describe your domestic violence problem?* (response choices are: 1. a serious problem, 2. moderate problem, 3. mild problem, 4. not a problem). The Pretest mean score was 3.26; Posttest mean was 3.64 (higher=better).
>
> *I have an explosive or violent temper*. (response choices are either 1. true or 2. false) The Pretest mean score was 1.35; Posttest mean was 1.18 (higher=better).
>
> *I have serious marital, relationship or family problems.* (response choices are either 1. true or 2. false) The Pretest mean score was 1.57; Posttest mean was 1.75 (higher=better).

In the last 30 days I have been suicidal, homicidal or both. (response choices are: 1. suicidal, 2. homicidal, 3. both suicidal and homicidal and 4. none of the above. An average score of 4.0 on this item would mean 100% of those tested answered 'none of the above'.) The Pretest mean score was 3.92; Posttest mean was 3.98.

Interestingly, offenders' desire to get (continue) treatment for domestic violence decreased between pre-and posttests (pretest 2.91; posttest 3.60) (lower score=more willing to get [continue] treatment). The drop in the average includes a 76.8% increase in the percentage of offenders who felt they had "no need" for further treatment (pretest 41.1%; posttest 72.7%). **This indicates that the offenders themselves believe that their course of treatment has been successful.**

The differences between offenders' DVI Pretest and Posttest scores and responses provide an empirical basis to conclude that this was an effective domestic violence offender treatment program.

40. Study of DVI in a European Domestic Violence Program

This study (2010) examined the DVI test statistics in a sample of domestic violence offenders in Europe. Data were obtained from an agency that administered the Domestic Violence Inventory (DVI) to domestic violence perpetrators (offenders). Offenders were tested between January 2010 and December 2010. There were 198 offenders included. DVI reliability, validity and accuracy were studied.

Method and Results

The participants in this study (2010) consisted of 198 offenders. There were 191 (96.5%) males and 7 (3.5%) females. Demographic composition of this sample is as follows. Age: 20 & under (5.1%); 21-30 (40.4%); 31-40 (35.3%); 41-50 (15.7%) and 51-60 (3.5%). Ethnicity: White (97.0%); Black (1.2%), Hispanic (1.2%) and Other (0.6%). Education: Junior School (16.9%); Secondary School (32.2%); GCSE (8.2%); A Level (1.5%); Bachelor's degree (2.1%) and Advanced degree (3.1%). Marital Status: Single (24.2%), Married (28.4%), Divorced (3.1%) and Separated (44.3%).

Reliability of the DVI

Within-test reliability, or inter-item reliability coefficient alphas for the Domestic Violence Inventory (DVI) are presented in Table 67.

Table 67. DVI reliability coefficient alphas (2010, N = 198)

Scale	Coefficient Alpha
Truthfulness Scale	**.84**
Alcohol Scale	**.90**
Drugs Scale	**.93**
Control Scale	**.89**
Violence Scale	**.83**
Stress Coping Scale	**.92**

Alpha coefficients for all scales were .83 and above. These results are similar to those reported in previous studies for entirely different populations of offenders and empirically demonstrate that the DVI is a highly reliable offender risk assessment test.

Validity

Validity analysis compared first-time offenders' and multiple offenders' DVI scale scores. Offenders classified as first-time offenders are those having no more than one domestic violence arrest, whereas multiple offenders are those that have been arrested for domestic violence two or more times. Domestic violence arrest information was determined from DVI answer sheet responses. Because DVI scales measure problem severity, it was predicted that multiple offenders would obtain higher (more severe) scale scores than first-time offenders. Validity analysis results are presented in Table 68.

Table 68. DVI Scale Score Comparisons of Offender Groups (N=198, 2010)

Scale	First Offenders' Avg. Scores	Multiple Offenders' Avg. Scores	*T*-value	Level of Significance
Truthfulness Scale	7.87	6.86	t=1.50	p<.001
Alcohol Scale	8.95	13.85	t=-2.99	p<.001
Control Scale	6.94	8.78	t=-1.98	p<.001
Drugs Scale	10.13	10.23	t=-.055	n.s.
Violence Scale	30.67	48.18	t=-5.80	p<.001
Stress Coping Abilities*	105.46	97.49	t=1.39	p<.001

*Note: Stress Coping Abilities Scale scores are reversed, meaning that higher scores are associated with better stress coping skills. For all other DVI scales, higher scores represent more severe problems.

As shown in Table 67, multiple offenders' average scores on nearly all DVI scales indicated more severe problems, with the exception of the Truthfulness Scale and Drugs Scale. First-time offenders had a higher average Truthfulness Scale score than multiple offenders, indicating that first-time offenders may be slightly more prone to denial or problem minimization than offenders with prior arrests. Drugs Scale scores of first-time and multiple offenders were comparable. For all other DVI scales, multiple offenders' average DVI scores were higher than those of first offenders, indicating more acute problem severity. Multiple offenders' more severe problems are manifested as higher DVI scale scores. **These results corroborate the discriminant validity of the DVI.** This is important because it shows that DVI scales effectively differentiate between offenders that are known to have more severe problems (multiple offenders) and first offenders.

Accuracy of the DVI

The accuracy of the six DVI measurement scales is presented in Table 69. Refer to previous studies for a discussion of this analysis.

Table 69. DVI Risk Range Accuracy (2010, N = 198)

Scale	Low Risk (39%)		Medium Risk (30%)		Problem Risk (20%)		Severe Problem (11%)	
Truthfulness	40.5	**(1.5)**	30.3	**(0.3)**	21.1	**(1.1)**	8.1	**(2.9)**
Alcohol	40.6	**(1.6)**	27.7	**(2.3)**	19.8	**(0.2)**	11.9	**(0.9)**
Drugs	40.7	**(1.7)**	28.8	**(1.2)**	18.6	**(1.4)**	11.9	**(0.9)**
Violence	39.4	**(0.4)**	30.3	**(0.3)**	19.7	**(0.3)**	10.6	**(0.4)**
Control	40.9	**(1.9)**	27.8	**(2.2)**	19.7	**(0.3)**	11.6	**(0.6)**
Stress Coping	39.7	**(0.7)**	30.4	**(0.4)**	19.6	**(0.4)**	10.3	**(0.7)**

All attained risk range percentages were within 2.9 percentage points of the predicted percentages. These results empirically demonstrate that DVI scales accurately measure domestic violence offender risk.

Discussion

This study determined that meaningful domestic violence offender assessment is achieved with the DVI. Results corroborate and support the Domestic Violence Inventory as an accurate assessment test for domestic violence offenders. The DVI accurately measures offender risk of violence (lethality), substance (alcohol and drugs) abuse, controlling behaviors, and mental health problems. Results demonstrate that repeat domestic violence offenders have more problems than first offenders.

Study results demonstrate that we can accurately measure a person's probability of perpetrating in domestic violence. In the Domestic Violence Inventory (DVI), this is accomplished with the Violence Scale, which measures the severity of violent proneness. At the same time we can also identify many of the exacerbating conditions that act as domestic violence trigger mechanisms. Within the DVI profile (report), the severity of these triggering mechanisms is measured by the Alcohol Scale, Drugs Scale, Control Scale and Stress Coping Abilities Scale. Low scale scores are associated with low levels of

supervision as well as intervention and treatment, whereas high scale scores relate to more intense intervention/treatment recommendations and levels of supervision.

41. DVI-Juvenile Reliability, Validity and Accuracy

This study (2010) was conducted to test the reliability, validity and accuracy of the Domestic Violence Inventory – Juvenile (DVI-J). Reliability was tested using the inter-item reliability coefficient alpha statistic. Validity tests consisted of the same discriminant and predictive validity tests that were conducted in the above adult study. Accuracy was also modeled after the study summarized above. The study sample consisted of 238 juvenile domestic violence offenders. These juvenile offenders were administered the DVI-J as part of normal domestic violence program procedures.

Method

The DVI-Juvenile was administered to 238 adjudicated juvenile offenders. There were 81 males (66%) and 41 females (34%). The demographic composition of this group is as follows: Age: 13 years of age and under (13%), 14 (8%), 15 (28%), 16 (33%), 17 and over (18%). Ethnicity: Caucasian (77%), Black (7%), Hispanic (9%), Native American (3%), and Asian (2%). Education: 6th grade or less (6%), 7th grade (9%), 8th grade (16%), 9th grade (24%), 10th grade (30%), 11th grade (12%), and 12th grade (2%).

Criminal history of these juveniles is summarized as follows: Age of First Conviction: 10& under (0.5%), 11 years of age (1.4%), 12 (2.8%), 13 (5.7%), 14 (11.4%), 15 (19.9%), 16 (29.4%), 17 (28.9%). Times on Probation: None (46.7%), Once (35.7%), Twice (12.6%), 3 or more times (5.0%). Probation Revocations: None (83.4%), One (10.1%), Two (2.0%), Three (4.5%). Juvenile Court Hearings: None (24.5%), One (25.5%), Two (22.5%), Three or more. Juvenile Detentions: None (58.0%), One (29%), Two (4%), Three or more (9%). Juvenile Confinements: None (72.4%), One (20.1%), Two (3.5%), Three or more (4.0%). Domestic Violence Arrests: None (87.6%), One (6.4%), Two (5.0%), Three or more (1.0%). Alcohol Arrests: None (87.1%), One (8.5%), Two (2.5%), Three or more (2.0%). Drug Arrests: None (58.4%), One (33.2%), Two or more (8.4%). Assault Arrests: None (76.2%), One (16.3%), Two or more (7.5%).

Reliability coefficient alphas for this DVI-J sample are presented in Table 70.

Table 70. Reliability coefficient alphas. Juvenile offenders (2010, N=238)

All coefficient alphas significant at p<.001.

DVI-J Scale	**Juvenile Offenders**
Truthfulness Scale	.90
Alcohol Scale	.93
Drugs Scale	.92
Violence Scale	.93
Control Scale	.90
Stress Coping Abilities	.94

These results strongly support the reliability (internal consistency) of the DVI-Juvenile test. All reliability coefficient alphas were significant at p<.001 and all coefficients exceed the professionally accepted standard of .80. All attained coefficients were at .90 or above. The DVI-J is a reliable assessment instrument for the juvenile population of troubled youth.

The risk range percentile scores for this sample of juvenile domestic violence offenders are presented in Table 71.

Table 71. Risk Range Percentile Scores for juvenile offenders, N = 238 (2010).

Risk Range	Truthfulness	Alcohol	Drugs	Control	Violence	Stress Coping	**Predicted**
Low	40.3	39.9	39.5	39.2	40.8	40.6	**39%**
Medium	26.9	29.8	29.8	29.7	29.6	30.1	**30%**
Problem	21.5	21.0	25.2	20.8	18.9	18.8	**20%**
Maximum	11.3	9.3	5.5	10.3	10.7	10.5	**11%**

These results show that obtained risk range percentile scores closely approximated the predicted risk range percentile scores for each of the six DVI-J scales. **These results indicate that the DVI-Juvenile is a very accurate domestic violence offender risk assessment instrument for juvenile offenders.**

In the discriminant validity analysis, multiple offenders were defined as offenders who had been arrested for alcohol, drugs or domestic violence arrests. Juvenile offenders do not have sufficient criminal history to carry out the analysis in the same way as was done for adults. As can be seen in the criminal history data, the vast majority of the juvenile offenders did not have any arrests. The *t*-test comparisons of first offenders' and multiple offenders' average scores for each DVI-J scale are presented in Tables 71, 72 and 73. For the analysis presented in Table 71, *multiple offenders* are juveniles who have had 2 or more domestic violence arrests.

Table 72. T-test comparisons of first offenders' and multiple offenders' scale scores.
Offender status defined by number of domestic violence arrests.

DVI-J Scale	**First Offenders' Mean**	**Multiple Offenders' Mean**	**T-value**	**Level of Significance**
Truthfulness Scale	7.18	7.12	0.037	n.s.
Control Scale	13.25	15.24	-0.804	p<.001
Violence Scale	30.05	43.71	-3.246	p<.001
Stress Coping Abilities	92.01	89.65	0.224	n.s.

As shown in Table 72, first-time and multiple offenders' scale scores were comparable for the Truthfulness Scale and the Stress Coping Abilities Scale. No significant differences were found between

first and multiple offenders' average scores on either of these scales. Both offender groups were similarly truthful while completing the DVI-Juvenile and both groups manifest similar levels of stress management skills. Statistically significant differences were found between the offender groups for both the Control Scale and the Violence Scale. Juveniles with two or more domestic violence arrests attained significant higher (more severe) mean scale scores on the Control Scale and Violence Scale than did juveniles having less than two domestic violence arrests. Higher scale scores represent more severe problems.

In Tables 73 and 74, a multiple offender is defined as a juvenile who had more than one alcohol-related and drug-related arrest, respectively. By categorizing juvenile offenders in this way, we can perform the *t*-test score comparisons. There were 238 juvenile offenders used in this analysis.

Alcohol Scale scores and Drugs Scale scores were compared by classifying the tested juvenile offenders in terms of number of alcohol-related and drug related arrests.

Table 73. T-test comparison of Alcohol Scale scores in terms of offender status.
Offender status defined by number of alcohol arrests.

DVI-J Scale	First Offenders' Mean	Multiple Offenders' Mean	T-value	Level of significance
Alcohol Scale	10.46	25.11	-3.81	p<.001

Table 74. T-test comparison of Drugs Scale scores in terms of offender status.
Offender status defined by number of drug arrests.

DVI-J Scale	First Offenders' Mean	Multiple Offenders' Mean	T-value	Level of significance
Drugs Scale	5.83	20.75	-5.81	p<.001

Both the Alcohol Scale and Drugs Scale effectively identified juvenile offenders known to have more severe substance-related problems (multiple offenders). For both scales, average scores of multiple offenders were significantly higher (more severe) than the average scale scores of first offenders.

T-test comparisons of first offenders' and multiple offenders' mean scale scores resulted in multiple offenders attaining higher (more severe) average scale scores than first offenders, however, the difference in average scale scores was not statistically significant for either the Truthfulness Scale and Stress Coping Abilities Scale. Scores for these two scales were comparable. For all other DVI-J scales, multiple offenders attained significantly higher scale scores, which represent multiple offenders' more severe problems in the areas of substance (alcohol or drugs) use disorders, violent proneness or controlling tendencies. These results corroborate the discriminant validity of the Domestic Violence Inventory-Juvenile (DVI-J).

42. Domestic Violence Inventory Correlation Analyses

DVI Pretest and DVI Posttest Comparable Scale Correlations (N=211)

Correlation analyses were performed to determine the test-retest association of DVI Pre-Post scales before treatment (Pretest) and after treatment (Posttest). There were 211 clients that took both the

Pretest, then the Posttest. The test-retest interval between the time that Pretest was administered to the time that the Posttest was administered to the same clients averaged 166 days (approximately 5.5 months). Correlation analyses established moderately strong, significant (at $p<.001$ level) correlations between Pretest and Posttest scores. DVI Pre-Post scales effectively measure the same constructs at Pretest that they do at Posttest. Positive moderate correlation coefficients show that clients maintain their rank order. That is, clients who scored higher than other clients at Pretest tended to score higher than other clients at Posttest, even though most clients' scores were lower at Posttest.

Table 75. DVI Pre-Post PRETEST and DVI Pre-Post POSTTEST Correlations (N=211, 2011)

Truthfulness	Alcohol	Control	Drugs	Violence	Stress Coping
.31	.72	.54	.43	.23	.45

DVI and DVI Pretest Comparable Scale Correlations (N=2,399)

Standard DVI scales were compared to corresponding scales in the DVI Pre-Post pretest. Because the Pretest is the baseline from which treatment effectiveness is established, its scales should accurately measure what they are designed to measure. The Standard DVI has been established as an accurate domestic violence perpetrator assessment instrument, therefore, strong associations between Standard DVI and DVI Pretest scales would mean that the DVI Pretest scales are a solid foundation upon which to gauge treatment effectiveness. The attained correlation coefficients, presented in the following table, demonstrate that the DVI Pretest is a firm baseline upon which to establish treatment program outcome.

Table 76. DVI and DVI Pre-Post PRETEST Correlations (N=2,399, 2011)

Truthfulness	Alcohol	Control	Drugs	Violence	Stress Coping
.68	.85	.77	.82	.66	.56

DVI and DVI-Short Form Comparable Score Correlations (N=5,416)

Domestic Violence Inventory (DVI) scale scores are strongly correlated with DVI-Short Form scale scores. In this analysis, DVI scales were correlated with analogous DVI Short-Form scales. Pearson's *r* correlation coefficients can range from zero to 1, where zero means there is no association between variable and 1 means that two variables are perfectly correlated. As shown in the following table, correlation analysis of DVI scales with DVI-Short Form scales all yielded coefficients very close to 1.0. This is to be expected because only the statistically strongest items in the DVI were selected for inclusion in the DVI-Short Form. As established by the significantly high correlation coefficients, domestic violence perpetrator risk measured with the DVI-Short Form is as accurate as risk measured with the standard DVI.

Table 77. DVI and DVI-Short Form (N=5,416, 2011*)*

	Truthfulness	Alcohol	Control	Drugs	Violence	Stress Coping
Standard DVI	.95	.97	.98	.98	.95	.98

43. DVI Validity and Reliability Confirmation Study

Data collected four agencies in 2012 were aggregated and analyzed to establish the reliability and validity of the Domestic Violence Inventory. Reliability was tested using the coefficient alpha statistic, a measure of internal consistency. Tests to establish criterion validity were conducted.

Method

There were data from 1, 017 offenders used in this analysis. Demographic characteristics include: 80% were male, 20% were female; 32.6 was the average age for all offenders, 33.4 for male offenders, and 29.4 for female offenders; 71% were Caucasian, 14% were African American, 9% were Hispanic, 3% were Asian, 1% were Native American, 2% reported Other but did not provide any additional information; 40% were single, 30% were married, 14% were divorced, 10% were separated, and 3% were widowed; 11% completed 8th grade or less, 25% completed some high school, 9% completed a GED, 32% graduated high school, 15% had some college experience, 4% technical/business school, 3% graduated college, <1% received a graduate degree

Individuals were categorized into first-time offenders and multiple offenders based on the number of total arrests they reported. First-time offenders are defined as individuals with one arrest. Multiple offenders are defined as individuals with two or more arrests. Data was missing for 7 individuals. Seventy-six percent of offenders were considered first-time offenders; 23% of offenders were considered multiple offenders.

Reliability

Test reliability refers to a scale's consistency of measurement. Cronbach's Alpha, a measure of reliability, measured the internal consistency of each DVI scale. Perfect reliability is 1.00 and the professionally accepted standard is .75. Table 78 presents reliability coefficients for each DVI scale and all scales received high reliability scores and support the DVI as a reliable domestic violence screening instrument.

Table 78. DVI Reliability (N=1017, 2012)

Scales	Cronbach's Alpha
Truthfulness	.90
Alcohol	.94
Drugs	.93
Violence	.87
Control	.86
Stress Coping Abilities	.93

Validity

A comparison between the mean scores of first-time offenders and multiple offenders found higher mean scale scores for multiple offenders on the Truthfulness, Alcohol, Drugs, Violence, and Control scales. First-time offenders had higher mean scale scores on the Stress Coping Abilities Scales reflecting better implementation of stress management strategies.

Table 79. DVI Validity Findings (N=257, 2012)

Scales	First-time Offender Mean Score	Multiple Offender Mean Score	t-value	Significance
Truthfulness	6.7	7.0	-.34	**Not Significant**
Alcohol	11.4	15.4	-2.28	**.02**
Drugs	8.9	12.7	-2.44	**.02**
Violence	30.5	54.4	-9.35	**<.001**
Control	6.5	7.5	-1.19	**Not significant**
Stress Coping Abilities	112.4	97.9	2.66	**<.001**

Results from t-test analyses indicated that for Alcohol, Drugs, Violence, and Stress Coping Abilities scales, the differences were statistically significant. First time and multiple DVI offenders' attained similar or not statistically significant Truthfulness Scale scores. Similar results have been reported in earlier analyses. It may be that all offenders have similar concerns in court related assessment settings. This may account for the enduring denial and problem minimization observed in multiple offenders' scores. Moreover, the role that treatment or intervention may have on subsequent tests (multiple offenders) remains unknown. Similar Truthfulness Scale mean scale scores for first-time and multiple offenders warrant further research.

Failure to find statistically significant findings for the Control Scale is likely the result of a small mean difference and sample size. This is not a typical occurrence but consistently similar results may warrant further investigation.

As a general rule, higher DVI scores were obtained by multiple offenders when compared to first-time offenders. These results support the validity of the DVI and demonstrate that the DVI effectively differentiates between offenders that are known to have more severe problems (multiple offenders) than first time offenders.

43. DVI Validity and Reliability Test Confirmation Study Using Data from a Midwestern Community Mental Health Center

Data were (2012) were analyzed to test the reliability, validity and accuracy of the Domestic Violence Inventory using data from 219 offenders from a Midwestern Community Mental Health Center. Reliability was tested using Cronbach's alpha, a measure of internal consistency. Tests to establish criterion validity were also conducted.

Method

This study used 219 offenders. Demographic characteristics were: 73% were male, 27% were female; Average age was 30.3 for all offenders, 31.6 for male offenders, 27.0 for female offenders; 65% were Caucasian, 20% were African American, 5% were Hispanic, <1% were Asian, <1% were Native American, and 7% reported Other; 35% were single, 38% were married, 12% were divorced, 9% were separated, <1% were widowed; 1% completed 8th grade or less, 11% completed some high school, 7% completed a GED, 44% graduated high school, 22% had some college, 3% technical/business school, 8% graduated college, and <1% completed a graduate degree, <1% completed a professional degree
Individuals were categorized into first-time offenders and multiple offenders based on the number of total arrests they reported. Eighty-two percent of offenders were considered first-time offenders; 18% of offenders were considered multiple offenders.

Sixty-six percent of tested offenders reported at least one misdemeanor conviction, 29% reported at least one felony conviction, 91% had at least one arrest, 83% had at least one domestic violence arrest, 33% had at least one alcohol-related arrest, 20% had at least one drug-related arrest, 20% reported at least one assault, 57% had at least one probation sentence, 47% had at least one jail sentence, and 11% had at least one prison sentence.

Reliability

Cronbach's Alpha, a measure of reliability, measured the internal consistency of each DVI scale. The professionally accepted standard is .75; all DVI scales exceeded this standard. These results support the DVI as a reliable domestic violence screening instrument.

Table 80. DVI Reliability (N=219, 2012)

Scales	Cronbach's Alpha
Truthfulness	.87
Alcohol	.93
Drugs	.88
Violence	.90
Control	.89
Stress Coping Abilities	.93

A comparison between the mean scores of first-time offenders and multiple offenders found higher mean scale scores for multiple offenders on the Alcohol, Drugs, Violence, and Control scales. First-time offenders had higher mean scale scores on the Truthfulness and Stress Coping Abilities Scales.

Table 81. DVI Validity Findings (N=219, 2012)

Scales	First-time Offender Score	Multiple Offender Mean Score	t-value	Significance
Truthfulness	9.37	7.38	2.31	**.02**
Alcohol	7.00	10.61	-1.69	**.09**
Drugs	3.19	9.23	-3.04	**.004**
Violence	27.35	56.92	-8.90	**<.001**
Control	5.84	7.76	-1.45	**Not significant**
Stress Coping Abilities	118.27	102.7	2.00	**.05**

Higher scores for first-time offenders on the Truthfulness Scale have been observed in previous research and may be associated with offenders' level of experience with criminal justice system. These individuals may engage in more denial and minimizing behaviors whereas, multiple offenders may have learned that denial and minimizing are usually detected. Higher scores for the Stress Coping Abilities Scale may reflect their stress management strategies. The results are presented in Table 46.

Failure to find statistically significant findings for the Control Scale is likely the result of a small mean difference and sample size. This is not a typical occurrence but consistently similar results may warrant further investigation.

As a general rule, higher DVI scores were obtained by multiple offenders when compared to first-time offenders. These results support the validity of the DVI and demonstrate that the DVI effectively differentiates between offenders that are known to have more severe problems (multiple offenders) than first time offenders. These results support the validity of the DVI and demonstrate that the DVI effectively differentiates between offenders that are known to have more severe problems (multiple offenders) than first time offenders.

44. Test Statistics for DVI: Confirmatory Findings

This report summarizes Domestic Violence Inventory (DVI) test data for 277 individuals accused or convicted of domestic violence. Data were (2012) were analyzed to test the reliability, validity and accuracy of the Domestic Violence Inventory. Reliability was tested using the coefficient alpha statistic, a measure of internal consistency. Tests to establish criterion validity were conducted.

Method

As noted above, 277 individuals were part of the study. Demographic variables were as follows: 77% were male, 23% were female; Average age was 35.1 for all offenders, 35.3 for male offenders, 33.6 for female offenders; 61% were Caucasian, 32% were African American, 3% were Hispanic, 1% were Asian, <1% were Native American, and 1% reported Other; 47% were single, 26% were married, 12% were divorced, 14% were separated, <1% of data were missing; 3% completed 8th grade or less, 24% completed some high school, 17% completed a GED, 32% graduated high school, 13% had some college, 3% technical/business school, 5% graduated college, and 1% completed a graduate degree, 2% completed a professional degree;

Criminogenic factors were as follows: 79% of offenders were first-time offenders and 21% of offenders were multiple offenders; 75% of tested offenders reported at least one misdemeanor conviction, 25% reported at least one felony conviction, 97% had at least one arrest, 92% had at least one domestic violence arrest, 45% had at least one alcohol-related arrest, 28% had at least one drug-related arrest, 26% reported at least one assault, 83% had at least probation sentence, 62% had at least one jail sentence, and 13% had at least one prison sentence

Reliability

Test reliability refers to a scale's consistency of measurement. Cronbach's Alpha, a measure of reliability, measured the internal consistency of each DVI scale. Perfect reliability is 1.00 and .75 is the professionally accepted standard for reliability (Nunnally, 1978).

Table 47 gives reliability coefficients for each DVI scale and all scales received moderate to high reliability scores and support the DVI as a reliable domestic violence screening instrument.

Table 82. DVI Reliability (N=277, 2012)

Scales	Cronbach's Alpha
Truthfulness	.85
Alcohol	.94
Drugs	.87
Violence	.86
Control	.84
Stress Coping Abilities	.92

Validity

A comparison between the mean scores of first-time offenders and multiple offenders found higher mean scale scores for multiple offenders on the Alcohol, Drugs, Violence, and Control scales. First-time offenders had higher mean scale scores on the Truthfulness and Stress Coping Abilities Scales.

Table 83. DVI Validity Findings (N=277, 2012)

Scales	First-time Offender Mean Score	Multiple Offender Mean Score	t-value	Significance
Truthfulness	7.93	6.29	2.95	**.003**
Alcohol	8.56	12.55	-2.65	**.01**
Drugs	5.98	9.01	-2.89	**.004**
Violence	30.50	53.60	-10.60	**<.001**
Control	5.97	7.45	-2.25	**.02**
Stress Coping Abilities	121.32	108.81	2.72	**.007**

Higher scores for first-time offenders on the Truthfulness Scale have been observed in previous research and may be associated with offenders' level of experience with criminal justice system. These individuals may engage in more denial and minimizing behaviors whereas, multiple offenders may have learned that denial and minimizing are usually detected. Higher scores for the Stress Coping Abilities Scale may reflect their stress management strategies. The results are presented in Table 48.

Results indicated that for all scales the differences were statistically significant. As a general rule, higher DVI scores were obtained by multiple offenders when compared to first-time offenders. These results support the validity of the DVI and demonstrate that the DVI effectively differentiates between offenders that are known to have more severe problems (multiple offenders) than first time offenders.

45. Test Statistics for DVI: Confirmatory Findings

Data collected from four agencies in 2012 were aggregated and analyzed to establish the reliability and validity of the Domestic Violence Inventory. Reliability was tested using a coefficient alpha statistic, which is a measure of internal consistency. Tests to establish construct validity were also conducted.

Method

There were data from 1, 017 offenders used in this analysis. Demographic characteristics included: 80% were male, 20% were female; 32.6 was the average age for all offenders, 33.4 for male offenders, and 29.4 for female offenders; 71% were Caucasian, 14% were African American, 9% were Hispanic, 3% were Asian, 1% were Native American, 2% reported Other but did not provide any additional information; 40% were single, 30% were married, 14% were divorced, 10% were separated, and 3% were widowed; 11% completed 8th grade or less, 25% completed some high school, 9% completed a GED, 32% graduated high school, 15% had some college experience, 4% technical/business school, 3% graduated college, <1% received a graduate degree

Individuals were categorized into first-time offenders and multiple offenders based on the number of total arrests they reported. First-time offenders are defined as individuals with one arrest. Multiple offenders are defined as individuals with two or more arrests. Data was missing for 7 individuals. Seventy-six percent of offenders were considered first-time offenders; 23% of offenders were considered multiple offenders.

Reliability

Test reliability refers to a scale's consistency of measurement. Cronbach's Alpha, a measure of reliability, measured the internal consistency of each DVI scale. Perfect reliability is 1.00 and the professionally accepted standard for this type of instrument is .70-.80. Table 42 presents reliability coefficients for each DVI scale and all scales received high reliability scores and support the DVI as a reliable domestic violence screening instrument.

Table 84. DVI Reliability (N=1,017, 2012)

Scales	Cronbach's Alpha
Truthfulness	.90
Alcohol	.94
Drugs	.93
Violence	.87
Control	.86
Stress Coping Abilities	.93

Validity

A comparison between the mean scores of first-time offenders and multiple offenders found higher mean scale scores for multiple offenders on the Truthfulness, Alcohol, Drugs, Violence, and Control scales. First-time offenders had higher mean scale scores on the Stress Coping Abilities Scales reflecting better implementation of stress management strategies.

Table 85. DVI Validity Findings (N=1017, 2012)

Scales	First-time Offender Mean Score	Multiple Offender Mean Score	t-value	Significance
Truthfulness	7.71	6.86	2.21	**.03**
Alcohol	11.15	15.40	-4.79	**<.001**
Drugs	8.9	12.7	-2.44	**<.001**
Violence	24.29	43.65	-15.88	**<.001**
Control	6.5	7.5	-1.19	**<.001**
Stress Coping Abilities	115.02	103.68	3.84	**<.001**

Results indicated statistically significant results for all scales. First time offenders reported higher Truthfulness Scales than Multiple Offenders. Inexperience with the court system or evaluation process may lead First Time offenders to deny or minimize problems. As a general rule, higher DVI scores were obtained by multiple offenders when compared to first-time offenders. These results support the

validity of the DVI and demonstrate that the DVI effectively differentiates between offenders that are known to have more severe problems (multiple offenders) than first time offenders.

45. Domestic Violence Inventory (DVI) Reliability Studies From Two Clinical Sites

The analyses were conducted to confirm the reliability of the DVI in small practice, clinical settings. The smaller sample sizes were specifically selected to avoid the potential of inflated reliability coefficients when larger samples are used. Moreover, consistent reliability across clinical samples reinforces confidence in the DVI to consistently measure problems with alcohol, drugs, violence, controlling behaviors, and poor coping abilities.

The demographic characteristics of both clinical samples were very similar. There were 140 offenders in Sample 1 and 171 offenders in Sample 2. Each sample consisted largely of single, white males in their early 30s with at least a high school education. The average age of female offenders in both clinical samples were 4 years younger than male offenders in the sample. Both samples were composed of first time offenders, 75% and 83% respectively.

Table 86. Sample 1 Reliability Coefficients (N = 140, 2013)

Scales	Coefficients
Truthfulness	.90
Alcohol	.94
Drug	.89
Violence	.84
Control	.87
Stress Management	.93

Test reliability refers to a scale's consistency of measurement. Cronbach's Alpha, a measure of reliability, measured the internal consistency of each DVI scale. Perfect reliability is 1.00; however the professionally accepted reliability standard for this type of instrument is .70-.80 (Murphy & Davidshofer, 2001).

As noted in Table 85, reliability coefficients for Sample 1 exceeded professional standards for reliability of a clinical screening instrument. Similar results were revealed for Sample 2 (see Table 86). These results support the consistency of the DVI to measure problem behaviors in smaller clinical samples.

Table 87. Sample 2 Reliability Coefficients (N = 171, 2013)

Scales	Coefficients
Truthfulness	.90
Alcohol	.93
Drug	.92
Violence	.88
Control	.87
Stress Management	.94

46. Domestic Violence Inventory (DVI) Reliability From a Corrections Setting

This study examined the reliability of the DVI using a sample of 283 offenders administered the DVI in a corrections setting in Southeastern United States. Data used in the analysis were retrieved from Behavior Data Systems online database.

Participants: 82% were male, 18% were female. Average age: 33 for all offenders, 34 for male offenders, and 29 for female offenders. Race/Ethnicity: 35% were Caucasian, 48% were African American, and 17% were Hispanic. Marital Status: 50% were single, 36% were married, 9% were divorced, 5% were separated, and 1% were widowed. Education: 58% had less than a high school education, 6% completed a GED, 28% had graduated from high school.

The offenders in the sample had extensive criminal backgrounds and the majority were repeat domestic violence offenders. For example, 99% of offenders reported one or more arrests with 37% reporting 3 or more arrests. In addition, 97% of tested offenders reported one or more misdemeanor convictions, 33% reported one or more felony convictions, 92% had one or more domestic violence arrests, 40% had one or more alcohol-related arrests, 15% had one or more drug-related arrests, and 17% reported perpetrating one or more assaults.

Test reliability refers to a scale's consistency of measurement. Cronbach's Alpha, a measure of reliability, measured the internal consistency of each DVI scale. Perfect reliability is 1.00; however the professionally accepted reliability standard for this type of instrument is .70-.80 (Murphy & Davidshofer, 2001).

Table 88. Reliability Coefficients (N = 283, 2013)

Scales	Coefficients
Truthfulness	.90
Alcohol	.94
Drug	.89
Violence	.84
Control	.87
Stress Management	.93

All scales received high reliability scores and support the DVI as a reliable domestic violence screening instrument.

47. Domestic Violence Inventory (DVI) Risk Range Analyses from a Corrections Population

This study examined risk range classifications for 283 offenders administered the DVI in a corrections setting in Southeastern United States. Data used in the analysis were retrieved from Behavior Data Systems online database. Selected scales were used in these analyses.

Participants: 82% were male, 18% were female. Average age: 33 for all offenders, 34 for male offenders, and 29 for female offenders. Race/Ethnicity: 35% were Caucasian, 48% were African American, and 17% were Hispanic. Marital Status: 50% were single, 36% were married, 9% were divorced, 5% were separated, and 1% were widowed. Education: 58% had less than a high school education, 6% completed a GED, 28% had graduated from high school.

The offenders in the sample had extensive criminal backgrounds and the majority were repeat domestic violence offenders.

For each DVI scale, respondents were classified into four risk ranges: low risk (zero to 39th percentile), medium risk (40th to 69th percentile), problem risk (70th to 89th percentile), and severe problem (90th to 100th percentile). Risk ranges represent degree of severity and were established by converting raw scores to percentile scores by using cumulative percentage distributions.

Data analyses, in combination with field reports, have confirmed that these percentile categories provide accurate identification of problem behavior (Risk & Needs, 2012). The expected percentage of offenders for the Low Risk is 39%, Medium Risk is 30%, Problem Risk is 20% and the expected percent for Severe Problem classification is 11%.

Individuals were categorized into first-time offenders and multiple offenders based on the number of total arrests they reported. First-time offenders were defined as individuals with one arrest; repeat offenders were individuals with two or more arrests.

- 79.2% (224) of offenders were considered first-time offenders
- 20.8% (59) of offenders were considered repeat offenders

Obtained percentages are compared to expected percentages (listed above) in order to explore offender characteristics as measured by the DVI scales. Table 88 examines the Violence Scale by offender status (First time and Repeat); Table 89 presents Control Scale risk ranges by offender status.

Table 89. Violence Scale Risk Analysis by Offender Status (N = 283, 2013)

	Medium Risk		Problem Risk		Severe Risk	
Offender Status	N	%	N	%	N	%
First Time	68	30.4	41	18.3	8	3.6
Repeat	23	39.0	22	37.3	14	23.7

Table 89 summarizes findings for the Violence Scale by offender status. Repeat offenders had no offenders in the Low Risk range; this group of offenders clearly demonstrated more risk than expected. For example, obtained Medium Risk was 9% (39.0) higher than expected; Problem risk was 17.3% (37.3) higher than expected and Severe Risk was 12% (23.7) higher than expected. Repeat offenders demonstrated greater risk and propensity for violence.

Table 90. Control Scale Risk Analysis by Offender Status (N = 283, 2013)

	Medium Risk		Problem Risk		Severe Risk	
Offender Status	N	%	N	%	N	%
First Time	61	27.2	44	19.6	14	6.3
Repeat	20	33.9	14	23.7	15	25.4

As noted in Table 90, repeat offenders represented greater risk as measured by the Control Scale. Obtained percentages for each risk range, for repeat offenders, exceeded expected percentages by as great as 14% in the Severe Risk range. In the Medium Risk and Problem Risk ranges the differences between obtained and expected percentages were considerably smaller at 4.0% respectively.

46. Examination of DVI Pretest and Posttest Scores and Error

Several calls from clients to Behavior Data Systems regarding elevated DVI Pre and Posttest (DVI-PP) Truthfulness Scale posttest scores prompted this study. The original question was whether or not changes made to the DVI-PP made any significant differences to the scoring and whether the changes addressed the reported concern of higher Truthfulness Scale scores for some individuals.

3 analyses were run to answer the above research question:

- *T*-test
- Equivalency test
- Descriptive statistics

Methodology

Data were extracted from the DVI-PP (through 2011) and the DVI-PP-R (after 2011) to compare Truthfulness Scale scores to determine whether scoring features removed from the DVI-PP addressed issue of elevated scores or whether the recent changes to the DVI-PP-R were adequate and accurately reflect client truthfulness during testing. DVI-PP total administrations were 3, 513 and 414 with both pre and posttest scores; DVI-PP-R total administrations were 11, 753 and 1, 113 were matched (both pre/posttest scores).

Results

These results reflect overall group differences and individual scores.

- Results were statistically significant for the DVI-PP when comparing all pretest and posttest scores, as well as matched sample pretest and posttest scores. Test scores were not equivalent- the original scoring methodology seems to have artificially adjusted the scores.

- Results were NOT statistically significant for the DVI-PP-Revised when comparing all test scores, as well as the matched sample scores.

Table 91. Pre and Posttest Results (2014)

	All Administrations		**Matched Administrations**	
	Pretest	Posttest	Pretest	Posttest
DVI Pre Post				
N	3063	450	414	414
Mean	8.27	4.20	7.33	4.13
DVI Pre Post R				
N	10,522	1231	1113	1113
Mean	8.59	8.96	8.85	7.90

Equivalency results

- Roger (1993) procedures for test equivalency were followed. *Apriori* raw point difference for the Truthfulness Scale was selected based on earlier BDS equivalency studies. The difference was 2 points. Comparison, as well as analysis**, revealed that test scores were equivalent**—in general, clients were not more deceptive on the posttest than on the pretest.

For the DVI-PP-Revised, a comparison of raw point differences revealed that test scores were considered equivalent. Results were also not statistically significant. No meaningful differences between pre/post test responses were found. **Moreover, higher post test responses (all administration) did not result in increased risk classification on the DVI-PP-Revised.**

The scoring methodology of the DVI-PP-Revised does not seem to be negatively impacted by carryover effects, in general when comparing group differences on the DVI-PP-Revised. The test itself appears sound, however there may be individuals who have higher posttest scores on the Truthfulness Scale. When changes do occur at the individual level a test examiner must discuss the possible reasons for the score difference. Areas for discussion might be response bias, lack of motivation, disinterest, over identifying to demonstrate progress, treatment effectiveness or answering in a manner that 'makes the therapist look good'.

47. Reliability and Validity Study

This study uses data from a specific juvenile court in Ohio. The data submitted present a unique opportunity to explore validity and reliability using a sample, with balanced race/ethnicity composition, from a juvenile court.

Participants: 61% were male, 40% were female; 42% were Caucasian, 40% were African-American, 15% were Hispanic and 2% reported Other, no additional information was available for these offenders; approximately 80% had completed 9th grade or higher; 76% were first-time offenders, 24% were repeat offenders.

Reliability

Test reliability refers to a scale's consistency of measurement. Cronbach's Alpha, a measure of reliability, measured the internal consistency of each scale for each instrument administered by the Court Assistance Project. Perfect reliability is 1.00 and the professionally accepted standard of reliability for these types of instruments is .70 - .80 or higher (Murphy & Davidshofer, 2001).

Table 92. DVI-Juvenile Reliability (N = 269, 2014)

Scales	Coefficient Alpha
Truthfulness Scale	.85
Alcohol Scale	.87
Drugs Scale	.89
Violence (Lethality) Scale	.87
Control Scale	.88
Stress Coping Abilities Scale	.89

All scales exceed accepted reliability standards.

Validity

In testing, the term *validity* refers to the extent that a test measures what it was designed to measure. A test cannot be accurate without being valid. When individuals known to have more severe problems or symptoms receive higher scale scores than individuals known to have fewer problems or symptoms, the test is said to have evidence of construct validity (DeVon et al., 2007). Offenders were categorized into First-time and repeat offenders. First-time offenders were defined as having one arrest; Repeat offenders had two or more arrests. It was anticipated that repeat offenders' mean scale scores would be higher than first-time offenders, indicating more severe symptoms or problems except on the Stress Coping Abilities Scale. The Stress Coping Abilities Scale measures prosocial and protective factors so a lower score for repeat offenders was expected.

Table 93. DVI-Juvenile Validity (N = 269, 2014)

Scales	First-time Mean Scores	Repeat Offender Mean Scores	*t*	*p*
Truthfulness Scale	7.70	7.66	.06	n.s
Alcohol Scale	3.55	4.42	.85	n.s
Drugs Scale	9.00	10.72	.99	n.s
Violence Scale	32.03	44.00	6.30	<.001
Control Scale	12.95	11.73	1.03	n.s
Stress Coping Abilities Scale	83.77	83.81	.009	n.s

First-time offenders and repeat offenders mean scale scores were compared. Results found higher mean scale scores for repeat offenders on all scales except on the Control Scale and the Stress Coping Abilities Scale, which were slightly higher. Higher stress management scores and control scores is inconsistent with previous research and unique to this group of Lorain County Juvenile Court juvenile offenders.

T-test analyses were conducted to examine whether the differences between mean scores were statistically significant. Adjustments were made to account of unequal variance and Bonferroni correction was applied to control for experimentwise error. Results were not statistically significant except on the Violence Scale.

Overall, these findings demonstrate that the DVI-Juvenile effectively differentiates between offenders who are known to have more severe problems (repeat offenders) than first time offenders.

48. DVI Reliability Study Using Sample from 3 Counseling and Service Agencies (2014)

A series of analyses were conducted during 2014; the results presented here are from counseling and community service agencies. Data used were collected through November 2014.

Reliability

Test reliability refers to a scale's consistency of measurement. Cronbach's Alpha, a measure of reliability, measured the internal consistency of each scale for each instrument administered by the Colonial Community Corrections. Perfect reliability is 1.00 and the professionally accepted standard of reliability for these types of instruments is .70 - .80 or higher (Murphy & Davidshofer, 2001).

Table 94. Reliability (N = 661, 2014)

Scales	Coefficients Alpha
Truthfulness	.86
Alcohol	.93
Drug	.91
Violence	.90
Control	.90
Stress Management	.94

All scales exceed accepted reliability standards and are likely to improve with a larger sample.

Table 95. Reliability (N = 311, 2014)

Scales	Coefficients Alpha
Truthfulness	.87
Alcohol	.91
Drug	.90
Violence	.87
Control	.85
Stress Management	.93

All scales exceed accepted reliability standards and are likely to improve with a larger sample.

Table 96. Reliability (N = 383, 2014)

Scales	Coefficients Alpha
Truthfulness	.90
Alcohol	.95
Drug	.91
Violence	.87
Control	.85
Stress Management	.94

All scales exceed accepted reliability standards and are likely to improve with a larger sample.

The results of these studies demonstrate that DVI scores of offenders, charged or convicted of domestic violence, were extreme consistent across samples. These findings provide evidence and support of the reliability of DVI scores.

SUMMARY

This document "DVI: An Inventory of Scientific Findings" is not intended to be an exhaustive compilation of DVI research. Yet it does summarize many research studies supporting the reliability, validity and accuracy of the Domestic Violence Inventory (DVI). Moreover, ongoing DVI database research ensures an increasingly accurate picture of DVI offenders and the risk they represent. It is reasonable to conclude the DVI provides a sound empirical basis for responsible domestic violence-related decision making.

It should be noted that studies are presented chronologically -- when the research was done. This enables the reader to see the evolution of the DVI and the DVI-Juvenile into state-of-the-art domestic violence offender assessment instruments. The most recent research represents the statistical properties of the DVI and DVI-Juvenile. And we now have the DVI Pre-Post outcome comparison.

There are now three versions of the DVI: **1.** Domestic Violence Inventory, **2.** Domestic Violence Inventory-Juvenile, and **3.** DVI Pre - Post. Many evaluators of troubled youth requested a juvenile version of the DVI. The DVI-Juvenile was finished and field tested in 1997. Although derived from the DVI, it is appropriate for juveniles 12 to 17 years of age. **Similarly, many DVI users requested a pretest - posttest version of the DVI.** Their intent is to test a domestic violence offender at intake (pretest), and then after recommended intervention (e.g., anger management, etc.) or treatment (e.g., individual, family, group counseling or substance abuse treatment) or at posttest. **Upon intervention program or treatment completion, the domestic violence offender is re-tested (posttest) to determine if his/her status has improved, stayed the same, or gotten worse.** The **DVI Pre-Post** was developed to meet this need.

The DVI, DVI-Juvenile and DVI Pre - Post all contain a proprietary built-in database for ongoing research and annual program summary. Ongoing research ensures quality control. Annual program summary provides program self-evaluation.

Areas for future DVI research are many and complex. Risk & Needs Assessment, Inc. shall continue its research and development efforts. Database research shall be emphasized. Consistent with the foregoing, Risk & Needs Assessment, Inc. encourages other scientists to participate in DVI research. Few fields of assessment represent such important opportunities for creative discovery.

In summary, this document is a cumulative record of the evolution of the Domestic Violence Inventory (DVI). Studies are presented chronologically -- in the same sequence they were completed. Current studies are most representative of the Domestic Violence Inventory, and the DVI-Juvenile. Risk & Needs Assessment, Inc. is committed to ongoing research. Interested parties should contact us at either hhl@riskandneeds.com or info@online-testing.com.

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