Victim Index

An Inventory of Scientific Findings

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INTRODUCTION

VICTIM INDEX

Increased public awareness of victims as a nationwide problem has clarified the need for identification and treatment. Concurrently, rising health care costs have placed increasing responsibilities on all persons working with victims. Workers in the field must document and substantiate their development of safety plans, intervention and treatment decisions.

The Victim Index (VI) scales evolved from scale items represented in other established assessment instruments. For example, the Truthfulness, Resistance and Substance Abuse Screen (Alcohol and Drug) items largely evolved from the Substance Abuse Questionnaire, which is an established substance (alcohol and other drugs) abuse screening instrument. The Distress, Morale, Self-esteem and Stress Coping Abilities items evolved from the Treatment Intervention Inventory, which is an established clinical or counseling screening instrument. These items were included in large item pools. Item selection was initially a rational process by three psychologists having clearly understood definitions of each scale. The original pool of potential test items was analyzed and items with the best statistical properties were retained. The Victim Index (VI) test was then administered to a variety of client groups, e.g., substance abuse outpatients, inpatients, municipal court diversion clients, probationers, college students and job applicants. Test items with the best statistical properties have been retained.

Information on the Victim Index (VI) is available in the VI Orientation & Training Manual. Computer scoring information is contained in the VI Computer Operating Guide. Each of these manuals can be obtained from Behavior Data Systems, Ltd.

VI MEASURES (SCALES)

Users of the Victim Index (VI) should be familiar with each VI scale. A description of each VI scale follows.

EIGHT VI SCALES (MEASURES)

1. **Truthfulness Scale:** measures the truthfulness of the client while they were completing the VI. This scale identifies self-protective, defensive or guarded people who minimize or even fake answers.

2. **Distress Scale:** measures sorrow, misery, pain and suffering. Distress incorporates pain (physical and mental), physical and mental abuse, agony and anguish.

3. **Morale Scale:** measures the client's mental state or outlook with respect to enthusiasm, confidence and willingness to work through difficult problems and hardships.

4. **Self-Esteem Scale:** reflects a client's explicit valuing and appraisal of self. Self-esteem incorporates an attitude of acceptance-approval versus rejection-disapproval. Self-esteem refers to a person's perception of self.

5. **Resistance Scale:** measures client defensiveness, resistance to help and uncooperativeness. This scale varies directly with the client's attitude and outlook.

6. **Suicide Ideation Scale:** measures a client's probability of committing suicide. Suicidal persons give many warnings regarding their intentions. Any elevated (70^{th} percentile and higher) Suicidal Ideation Scale score should be taken seriously.

7. **Substance Abuse Screen:** sometimes it is important to determine whether or not the client is involved with substance (alcohol and/or illicit drug) use or abuse.

8. **Stress Coping Abilities Scale:** establishes how well the client copes with stress. The National Institute for Occupational Safety and Health (NIOSH) 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.** Stress exacerbates symptoms of emotional and mental health problems.

The following studies summarize research conducted on a variety of clients, e.g., substance abuse inpatients/outpatients, vocational rehabilitation clients, people applying for jobs, victims, college students, municipal court diversion defendants, etc.

Victim Index (VI) research is presented chronologically in the order it was conducted. Chronological presentation enables the reader to follow the evolution of the VI into a state-of-the-art automated (computerized) screening instrument. More recent studies (toward the end of this document) are most representative of current VI statistics.

Over the years the Victim Index (VI) has become more and more focused on victim screening. This evolution has culminated in the VI being entirely focused on victim screening.

VI RESEARCH

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 scores 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**.

VICTIM INDEX RESEARCH

Victim Index is designed specifically to evaluate people who have been victimized, cheated, injured or otherwise harmed. The term victimization includes people who have suffered loss (e.g., bereavement), domestic violence or assault and been swindled or cheated. The VI has a long history of research and development, much of which is contained in the following summary. **VI research is reported in a chronological format, reporting studies as they occurred.** This gives the reader the opportunity to see how the VI evolved into a state-of-the-art risk and needs assessment instrument. For current information refer to the more recent studies near the end of this research section.

Initially, a large item pool was rationally developed for VI scale consideration. Consensual agreement among three Ph.D. level psychologists and other experienced chemical dependency counselors familiar with VI scale definitions reduced the initial item pool markedly. Final item selection was empirical - comparing statistically related item configurations to known substance abuse groups. Items chosen had acceptable inter-item reliability coefficients and correlated highest with their respective scales. Final item selection was based on each item's statistical properties. Items with the best statistical properties were retained. The VI was then objectively standardized and normed on victim populations.

10. A Study of Victim Index Test-Retest Reliability

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 VI accuracy, objectivity, practicality, cost-effectiveness and accessibility.

Reliability is a measure of the consistency of a test in obtaining similar results upon re-administration of the test. One measure of test reliability, over time, is the test-retest correlation coefficient. In this type of study, the test is administered to a group and then the same test is re-administered to the same group at a later date.

Method

College students at two different colleges enrolled in introductory psychology classes participated in this study (1984). A total of 115 students participated and received class credit for their participation. The students were administered the VI in a paper-pencil test format. One week later they were re-tested with the VI again.

Results

The results of this study revealed a significant test-retest product-moment correlation coefficient of $r = 0.71$, $p<.01$. These results support the reliability of the VI. Test-retest consistency was very high and indicates that the VI scores are reproducible and reliable over a one week interval.

11. Validation of the Truthfulness Scale

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

The Truthfulness Scale identifies respondents who are 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 Victim Index 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 VI Truthfulness Scale, was administered to the subjects and the Truthfulness Scale was embedded in the test as one of the five 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 reveal that the Truthfulness Scale accurately detects "Fakers" from those students that took the test honestly.

12. Validation of Five Victim Index 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 Victim Index scales (Truthfulness, Substance Abuse Screen--Alcohol & Drugs, Resistance and 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 VI scales were validated with MMPI scales as follows. The Truthfulness Scale was validated with the L Scale. The Alcohol items were validated with the MacAndrew Scale. The Drug items were validated with the MacAndrew and Psychopathic Deviant scales. The Resistance Scale was validated with the Manifest Hostility Scale and Authority Conflict Scale. The Stress Coping Abilities Scale was validated with the Taylor Manifest Anxiety, Psychasthenia, Social Maladjustment and Social Alienation scales.

Method

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

Results and Discussion

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

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 VI scales.

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

MMPI SCALES	**Victim Index Scales (Measures)**				
(MEASURES)	**Truthfulness**	**Alcohol**	**Drug**	**Resistance**	**Stress Coping**
L (Lie) Scale	0.72	-0.38	-0.41	-0.29	0.53
Psychopathic Deviant	-0.37	0.52	0.54	0.27	-0.59
Psychasthenia	-0.34	0.38	0.41	0.37	-0.68
Social Maladjustment	-0.25	0.34	0.26	0.35	-0.54
Authority Conflict	-0.43	0.31	0.47	0.55	-0.46
Manifest Hostility	-0.45	0.34	0.47	0.57	-0.58
Taylor Manifest Anxiety	-0.58	0.47	0.46	0.50	-0.78
MacAndrew	-0.40	0.58	0.62	0.26	-0.33
Social Alienation	-0.47	0.35	0.45	0.48	-0.67

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

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 **Resistance Scale** is most significantly correlated with the Manifest Hostility ($r = 0.57$) and the Authority Conflict ($r = 0.55$) scales. These findings are consistent with the conceptual definition of the Resistance Scale as measurement of willingness to work and cooperate with others.

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

13. Inter-item Reliability of the Victim Index

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 measures 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

This study (1985) included three separate groups of subjects: 100 outpatients in private practice, 100 substance abuse inpatients, and 189 job applicants -- totaling 389 subjects. Separate inter-item reliability analyses were conducted to compare results across the three groups.

Results and Discussion

The inter-item reliability coefficient alpha and within-test reliability statistics are presented in Tables 2 and 3, respectively. All inter-item reliability coefficient alphas and within-test reliability F-values are significant at $p<.001$. These results supports the reliability of the VI. The VI is a highly reliable instrument.

Table 2. Inter-item reliability, coefficient alpha. (1985)
Outpatients, Substance Abuse Inpatients and Job Applicants (N = 389)

VI SCALES MEASURES	N ITEMS	Outpatients (N = 100)	Inpatients (N = 100)	Job Applicants (N = 189)
Truthfulness Scale	21	0.81	0.79	0.81
Resistance Scale	21	0.74	0.74	0.61
Substance Abuse Screen	21	0.86	0.93	0.83
Stress Coping Abilities	40	0.81	0.84	0.73

Table 3. Within-test reliability, F statistic.
All F statistics are significant at p<.001.

VI SCALES MEASURES	N ITEMS	Outpatients (N = 100)	Inpatients (N = 100)	Job Applicants (N = 189)
Truthfulness Scale	21	21.73	53.15	45.91
Substance Abuse Screen	21	9.29	31.46	47.75
Resistance Scale	21	15.97	19.21	23.67
Stress Coping Abilities	40	46.74	16.20	195.86

These results (Tables 2 and 3) demonstrate the impressive reliability of the VI. Reliability was demonstrated with three different groups of people (outpatients, inpatients and job applicants) taking the VI.

In each of these subject samples, all VI scales (measures) were found to be significantly independent of the other VI scales as shown by the highly significant within-test F statistics. The F statistic is obtained in within-subjects between measures ANOVA performed on each individual VI scale in each of the samples.

The F statistics show that each VI scale measures essentially one factor (or trait). In addition, all VI scales show high inter-item reliability. This is demonstrated by the Standardized Cronbach's Coefficient Alpha - a widely used test of inter-item reliability when using parallel models. This measure reveals that all items in each VI scale are significantly related and measure just one factor. In other words, each VI scale measures one factor, yet the factor being measured is different from scale to scale.

The inter-item reliability coefficients show very similar results across the three subject samples. The Truthfulness Scale and Substance Abuse Screen Scale are in close agreement. The Stress Coping Abilities Scale shows similar results for the chemical dependency groups but the job applicant group had a slightly lower coefficient alpha. This difference might be accounted for by the fact that individuals applying for a job would not want to show themselves in a bad light by indicating they have an emotional, stress-related or mental health problem. The Resistance Scale has a somewhat lower coefficient alpha than the other VI scales perhaps because this scale is not as specific as, say alcohol or drug abuse.

Because each sample may have scored differently from the other two samples, the data for all subjects were combined. For example, job applicants may score low on the Substance Abuse Screen Scale and inpatient clients may score high. By combining the data, scale scores would likely be distributed from low to high and result in even better coefficient alphas than each sample separately. Table 4 presents the inter-item reliability analysis of all of these independent studies (N = 100, N = 100, N = 189) combined (N = 389).

The combined data shows that all but one coefficient alpha increased in the combined data compared to coefficient alphas of each subject sample alone. These coefficient alphas in the combined data are very high and provide strong support for the reliability of the VI.

Table 4. Inter-item reliability, coefficient alpha. All data combined (N = 389).
All F statistics are significant at p<.001.

VI SCALES MEASURES	N ITEMS	COEFFICIENT ALPHA	F VALUE
Truthfulness Scale	21	0.82	96.93
Resistance Scale	21	0.77	53.03
Substance Abuse Screen	21	0.94	26.68
Stress Coping Abilities	40	0.85	150.78

14. Relationships between Selected Victim Index 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.

Two Victim Index scales were chosen for this study; Truthfulness Scale and Substance Abuse Screen. The Truthfulness Scale was chosen because it is used in the VI to measure the truthfulness or honesty of the respondent while completing the VI. The Substance Abuse Screen (alcohol and drugs) is well suited for comparison with the polygraph exam because of the situation specific nature of the scales. Alcohol and drug items are direct and relate specifically to alcohol and drug use. The comparison with the Truthfulness Scale is less direct because of the subtle nature of the Truthfulness Scale items as used in the VI. The respondent's attitude, emotional stability and tendencies to fake good affect the Truthfulness Scale. It was expected that the Substance Abuse Screen 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 VI scales and the Polygraph examination. Tests were given in a counterbalanced order, half of the applicants were given the VI scales first and the other half of the applicants were administered the polygraph first. The subjects were administered the VI 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 VI 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 items ($r = 0.54$, $p<.001$) and the drug items ($r = 0.56$, $p<.001$).

In summary, this study supports the validity of the VI Truthfulness Scale and Substance Abuse Screen. There were strong positive relationships between the selected VI scales and the Polygraph examination. The highly significant product-moment correlations between VI scales and Polygraph examinations demonstrates the validity of the VI Truthfulness and Substance Abuse Screen 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 VI. The fact that there was a very strong relationship between Polygraph results and VI scales shows that this type of information can be obtained accurately in self-report instruments.

These results indicate that the VI Truthfulness Scale is an accurate measure of the respondent's truthfulness or honesty while completing the VI. The Truthfulness Scale is an essential measure in self-report instruments. There must be a means to determine the honesty or "correctness" of the respondent's answers and there must be a means to adjust scores when the respondent is less than honest. The VI 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 show that the VI is a valid assessment instrument.

15. Validation of Victim Index Scales

The VI is a victim assessment instrument. It is designed for use in intake-referral settings, inpatient and outpatient treatment programs, court-related assessments, diversion programs and probation departments. The VI is a specific test designed for a specific population. The present study (1987) was conducted to validate VI scales.

Selected scales in the Minnesota Multiphasic Personality Inventory (MMPI) were used as criterion measures for the different VI scales. The Truthfulness Scale was validated with MMPI L Scale, F Scale and K Scale. The Resistance Scale was validated with MMPI Ego Strength (ES), Social Responsibility (RE), Social Maladjustment (SOC), Social Alienation (PD4), Social Alienation (SCIA), Authority Conflict (AUT) and Suspiciousness (TSC-III). The Substance Abuse Screen was validated with MMPI MacAndrew Scale (MAC) and Psychopathic Deviate-Obvious (PD-O). 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 VI scales because they measure similar attributes.

Method

The subjects used in the study were 212 inpatients in chemical dependency facilities. The VI and MMPI were administered in counterbalanced order.

Results and Discussion

The product-moment correlation results are summarized in Table 5. Since this study is important in understanding VI validity, each VI 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, $p<.001$); Wiener-Harmon MMPI subscales: PDO (Psychopathic Deviant-Obvious, $p<.001$).

Table 5. VI-MMPI Product-moment Correlations (1987)
Inpatients, Chemical Dependency Facilities

MMPI SCALES (MEASURES)	VI SCALES (MEASURES)			
	Truthfulness	**Resistance**	**Stress Coping**	**Substance Abuse Screen**
L	0.60	-0.23	-0.30	-0.24
F	-0.34	0.56	0.49	0.32
K	0.39	-0.61	-0.51	-0.29
MAC	-0.30	0.19	0.28	0.37
PD-O	-0.35	0.52	0.53	0.33
PD2	-0.26	0.07	0.07	0.18
PD	-0.33	0.19	0.39	0.33
ES	0.25	-0.48	-0.51	-0.27
RE	0.41	-0.88	-0.45	-0.34
SOC	-0.19	0.34	0.39	0.17
PD4	-0.41	0.63	0.55	0.28
SCIA	-0.36	0.58	0.39	0.32
AUT	-0.21	0.52	0.18	0.30
TSC-III	-0.22	0.57	0.45	0.28
PT	-0.39	0.27	0.58	0.27
A	-0.41	0.53	0.68	0.31
MAS	-0.44	0.39	0.65	0.25
TSC-VII	-0.41	0.51	0.66	0.33

The **Resistance Scale** correlates significantly in predicted directions with selected MMPI criterion scales: ES (Ego Strength, $p<.001$), RE (Social Responsibility, $p<.001$), PD4 (Social Alienation, $p<.001$), SCIA (Social Alienation, $p<.001$), SOC (Social Maladjustment, $p<.001$), AUT (Authority Conflict, $p<.001$), TSC-III (Suspiciousness, $p<.001$) and TSC-V (Resentment/Aggression, $p<.001$).

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

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, $p<.001$).

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

The VI Substance Abuse Screen is a direct measure of alcohol and drug use and abuse, 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 Substance Abuse Screen could be affected by the lack of a truthfulness measure which is a deficiency of the MacAndrew Scale. However, the correlation coefficient is significant.

Where MMPI scales are closely related (by definition) to VI scales the correlation coefficients were highly significant. For example, the VI 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 VI.

16. Replication of Victim Index Reliability in a Sample of Inpatient Clients

In a replication of earlier VI research, chemical dependency inpatients (1987) were used to evaluate the reliability of the VI scales.

Method and Results

The VI was administered to 192 inpatients in a chemical dependency facility. The inter-item coefficient alpha statistics are presented in Table 6. These results are in close agreement to reliability results obtained in an earlier study using chemical dependency inpatient clients. In some cases the coefficient alphas are higher in the present study as in the previous study. The results of the present study support the reliability of the VI.

Table 6. Inter-item reliability, coefficient alpha.
Chemical dependency inpatients (N = 192).

VI SCALES MEASURES	N ITEMS	COEFFICIENT ALPHA	F VALUE	P VALUE P<
Truthfulness Scale	21	0.79	13.28	0.001
Substance Abuse Screen	21	0.92	24.39	0.001
Resistance Scale	21	0.81	10.92	0.001
Stress Coping Abilities	40	0.99	27.77	0.001

In all of the subject samples studied, the VI scales were demonstrated to be independent measures. This mutual exclusivity (significant at p<.001) was demonstrated by a within-subjects measures ANOVA performed on each VI scale. These analyses demonstrate that each VI scale measures one factor or trait. All VI scales demonstrate high inter-item congruency, as reflected in the standardized Cronbach Coefficient Alpha. The items on each VI scale are significantly related to the factor or trait each scale was designed to measure. In other words, each VI scale measures one factor, and the factor (or trait) being measured differs from scale to scale.

VI scales (measures) have been shown to be both mutually exclusive and have high inter-item scale consistency. The VI has acceptable and empirically demonstrated reliability. In addition, inter-item reliability studies have shown that each VI scale is an independent measure of the trait (factor) it was designed to measure.

17. Validation of Victim Index Scales Using DRI Scales as the Criterion Measures

A study was conducted in 1988 that was designed to examine relationships (correlations) between

Victim Index Scales and Driver Risk Inventory (DRI) scales on an inmate population of incarcerated DWI offenders. The DRI has been demonstrated to be a valid, reliable and accurate assessment instrument for evaluation of DWI offenders.

The VI is designed for victim assessment. It contains seven measures or scales: Truthfulness, Distress, Morale, Self-Esteem, Resistance, Substance Abuse Screen and Stress Coping Abilities. Three of these seven VI scales are analogous (although independent) and directly comparable to Driver Risk Inventory (DRI) measures or scales. The DRI is designed for DWI (Driving While Intoxicated) and DUI (Driving Under the Influence) offender evaluation. The DRI contains five measures or scales: Truthfulness, Alcohol, Drug, Driver Risk and Stress Coping Abilities.

Although the scales designated Truthfulness, Substance Abuse Screen and Stress Coping Abilities are independent and differ in the VI and DRI, they were designed to measure similar behaviors or traits. Thus, although essentially composed of different test questions in the VI and DRI test booklets, these comparable measures or scales do have similarity. The Stress Coping Abilities Scale in the VI has fewer test items than the DRI.

Method

The VI and DRI were administered in group settings to 154 DWI offender inmates, in counter balanced order, at Arizona State Department of Corrections (ADOC) facilities. All of the subjects in this study were male inmates. The demographic composition was as follows. There were 98 Caucasians, 25 Hispanics, 13 American Indians, 12 Blacks and six other ethnicities. Five age categories were represented: 16-25 years (N = 26), 26-35 years (N = 74), 36-55 years (N = 38), 46-55 years (N = 11) and 56 or older (N = 5). Six educational levels were represented: Eighth grade or less (N = 7), Partially completed high school (N = 50), High school graduates (N = 70), Partially completed college (N = 16), College graduates (N = 9), and Professional/graduate school (N = 2). Each inmate completed both the VI and the DRI. Although all inmates volunteered to participate in this study, inmate motivation varied.

Results and Discussion

The results of this study are presented in Table 7. The results demonstrate highly significant relationships between the analogues VI and DRI scales. The DRI has been shown to be a valid measure of substance abuse in DUI/DWI offenders, hence, these correlation results support the validity of the VI.

Table 7. Product-moment correlations 1988 study of DWI inmates (N = 154).
All product-moment correlations are significant at p<.001.

DRI versus VI Scales	**Agreement Coefficients**
Truthfulness Scale	.6405
Substance Abuse Screen versus Alcohol Scale	.3483
Substance Abuse Screen versus Drug Scale	.3383
Stress Coping Abilities	.7642

It was noted that inmate motivation varied widely. This is evident in the Stress Coping Abilities correlation coefficient of .7642. Even though this is a highly significant correlation (p<.001), the Agreement Coefficient could be expected to be even higher because these scales were nearly identical and only differed by the number of test items. It is reasonable to conclude that low motivation on the part of many inmate volunteers contributed to lower Agreement Coefficients. Inmate volunteers were serving DWI-related sentences and these tests had no bearing on their incarcerated status or sentences. However, in spite

of widely varied inmate motivation, Agreement Coefficients for all five sets of scale comparisons were highly significant. The validity of the VI has been demonstrated on a sample of incarcerated offenders.

18. Validation of the VI Self-Esteem Scale

This study (1990) evaluated ratings between experienced counselors and the VI Self-Esteem Scale. These counselors had at least 8 years experience and an MA degree in counseling. Two counselors rated each client's self-esteem. They reviewed client outpatient files containing court histories, progress notes, diagnoses, MMPI and Incomplete Sentence materials. Each patient was interviewed for a minimum of 30 minutes. Product-moment correlation coefficients were calculated for each rater and are presented in Table 8.

Table 8. Staff Ratings and VI Self-Esteem Scale (1990, N=89)
Product-moment correlation coefficients significant at p<.05.

VI Scale	First Rater	Second Rater
Self-Esteem	.11	.18

The results of this study show that staff ratings of client's self-esteem and the VI Self-Esteem Scale are statistically significantly correlated. These results support the accuracy of the VI Self-Esteem Scale. Even though this study was completed over a six month period, all comparisons were significant.

19. A Study of Sex Differences in the Victim Index

People often develop firm masculine and feminine identifications that contribute to consistent "sex differences" or gender differences on psychometric tests. The Victim Index is a risk assessment instrument that measures risk from a variety of perspectives, notably, risk of alcohol and drug abuse, work attitude or motivation and mental health. If sex differences exist in these areas then male and female respondents are likely to score differently on these VI scales. The purpose of the present study (1990) was to investigate sex differences in VI scales.

Method

There were three subject samples included in the present study. Some of the participants were in public assistance (welfare) programs. Group 1 consisted of 446 adults. Group 2 consisted of 294 adults. Group 3 consisted of 846 adults. The VI was administered to each participant individually as part of routine evaluation programs at each location.

The participants in Group 1 consisted of 446 adults. There were 347 males (77.8%) and 99 females (22.2%). Age categories were as follows: 221 (16 to 25 years), 143 (26 to 35 years), 46 (36 to 45 years), 31 (46 to 55 years), and 5 (over 55 years of age). There were 370 Caucasians, 18 Blacks, 14 Hispanics, 1 Asian, 39 American Indians, and 4 Other. Educational levels were: Below 8th grade (24), Some High School (71), GED (64), High School Graduates (155), Some College (92), Business/Technical School (9), and College Graduates (31).

The participants in Group 2 consisted of 294 adults, 203 (69%) males and 91 (31%) females. Age was represented as follows: 16-25 years (71 males, 16 females); 26-35 years (93 males, 42 females); 36-45 years (32 males, 17 females); and 46-55 years (7 males, 16 females). Ethnicity was represented as follows:

Caucasian (55 males, 32 females); Black (130 males, 58 females), Hispanic (9 males); American Indian (7 males); and other (2 males, 1 female). Education was represented as follows: 8th grade or less (13 males, 1 female); Some High School (43 males, 19 females); GED (16 males, 7 females); High School Graduates (83 males, 24 females); Some college (26 males, 21 females); Business/Technical School (1 male, 1 female); College Graduates (13 males, 15 females); and Graduate/Professional Degrees (8 males, 3 females).

The participants in Group 3 consisted of 846 participants, 715 were male and 131 female. Age distributions were as follows: Under 16 (11 males, 2 females); 16-25 years (394 males, 60 females); 26-35 years (301 males, 67 females); and over 55 (9 males, 2 females). Ethnicity was represented as follows: Caucasian (436 males, 106 females); Black (96 males, 16 females); Hispanic (168 males, 9 females); and American Indian (15 males). Education was distributed as follows: 8th grade or less (56 males, 5 females); Some High School (241 males, 34 females); GED (72 males, 9 females); High School Graduate (230 males, 30 females); Some College (91 males, 49 females); Business/Technical School (6 males, 1 female); College Graduates (14 males, 3 females); and Graduate/Professional Degree (5 males).

Results and Discussion

Reliability coefficient alpha results are presented in Table 9.

Table 9. Reliability statistics, coefficient alpha. (1990)
All coefficient alphas are significant as p<.001.

VI Scales	Group 1 446 Adults	Group 2 294 Adults	Group 3 846 Adults
Truthfulness Scale	.81	.83	.84
Resistance Scale	.80	.80	.82
Substance Abuse Screen	.87	.86	.87
Stress Coping Abilities Scale	.91	.93	.94

Coefficient Alpha is considered the most important index of internal consistency or reliability. This study demonstrates the reliability (internal consistency) of the VI scales with adult participants from three different locations. Reliability refers to consistency of test results regardless of who uses the test. VI test results are reliable, objective, verifiable and reproducible. These results support the internal consistency (reliability) of the VI.

T-tests were calculated for all VI scales to assess possible sex or gender differences. T-test results are presented in Table 10.

Table 10. T-test comparisons of sex differences. (1990)
Sex Differences (Total N = 1,586)

VI Scale	Group 1 446 Adults	Group 2 294 Adults	Group 3 846 Adults
Truthfulness Scale	n.s.	n.s.	n.s.
Resistance Scale	n.s.	n.s.	n.s.
Substance Abuse Screen	t=6.41, p<.001	t=2.29, p<.023	t=5.95, p<.001
Stress Coping Abilities	n.s.	n.s.	t=2.92, p<.004

Significant sex differences were demonstrated on one of the five scales, i.e., Substance Abuse Screen, in

Group 1, significant sex differences were found on the Substance Abuse Screen in Group 2 and significant sex differences were found on the Substance Abuse Screen and Stress Coping Abilities scales in Group 3.

Based on this (1990) study, gender specific norms (or separate male and female scoring procedures) have been established in the VI software program for men and women on the Substance Abuse Screen and Stress Coping Abilities scales. Significant sex differences were not observed on the other VI scales. This is an example of the value of ongoing VI research. With more accurate and fair measures, assessment personnel can be more confident in their assessment-related decisions.

No significant gender differences were observed on the Truthfulness Scale. The Truthfulness Scale is composed of items to which most people would agree. The present analyses (1990) suggest that clients were so open (candid or honest) in their answers to these test items that sex differences were minimal or non-significant. In other words, items on the Truthfulness Scale do not appear to be intimidating or threatening.

20. Victim Index Sex Differences in a Sample of Municipal Court Clients

A study (Arizona, 1990) involving substance abuse-related offenders and welfare or public assistance clients processed through the Phoenix Municipal Court was conducted to evaluate possible sex differences in VI scale scores. VI scales reliability were also reviewed. Comparison to previous VI research regarding sex differences will help determine the consistency of sex difference across subject samples.

Methods and Results

The VI was administered as part of the routine substance abuse evaluation program in Phoenix Municipal Court to 794 individuals. There were 727 (92%) males and 67 (8%) females included in this study. Age was distributed as follows: Under 16 years of age (1 male); 16-25 years of age (229 males, 28 females); 26-45 years (450 males, 29 females); 46-55 years (33 males, 6 females); and over 55 years (14 males, 4 females). Ethnic composition is summarized as follows: Caucasian (400 males, 71 females); Black (62 males, 14 females); Hispanic (151 males, 9 females); American Indian (59 males, 21 females); Asian (1 female); and other (5 males, 1 female). Education is summarized as follows: 8th grade or less (8 males, 1 female); Some High School (182 males, 36 females); GED (69 Males, 6 females); High School Graduates (216 males, 34 females); Some College (165 males, 34 females); Business/Technical School (8 males); College Graduates (27 males, 5 females); and Graduate/Professional Degree (2 males, 1 female).

The t-test comparisons of VI scales between males and females indicated that significant sex differences were not demonstrated on the Truthfulness Scale, Substance Abuse Screen or the Stress Coping Abilities Scale. The seeming lack of a consistent pattern of sex differences on a state-by-state comparison emphasizes the importance of ongoing database research.

Table 11. Victim Index reliability, coefficient alpha. Municipal court clients (1990, N=794).
All coefficient alphas are significant at p<.001.

VI Scales	Coefficient Alpha
Truthfulness Scale	.80
Resistance Scale	.85
Substance Abuse Screen	.90
Stress Coping Abilities	.94

This study supports the reliability (internal consistency) of the Victim Index. The coefficient alphas for all VI scales were significant at $p<.001$. Similar reliability results have been demonstrated on other client populations.

21. Victim Index Reliability Study in Different Samples of Adults

The present (1991) study was conducted to evaluate the statistical properties of the Victim Index in three different adult samples some of whom were in public assistance (welfare) programs. As the VI becomes more widely used it will continue to be our policy to continue to investigate statistical (reliability) properties on the various victim population databases.

Method

There were three groups of adults included in this study. Group 1 consisted of 1,299 clients. Group 2 consisted of 177 adults. Group 3 consisted of 253 adults. Group 1 consisted of 1149 (88.5%) men and 150 (11.5%) women. Age group by gender is summarized as follows: Under 16 (2 males, 5 females, total 7); 16 to 25 (649 males, 64 females, total 713); 26 to 35 (277 males, 48 females, total 325); 36 to 45 (180 males, 23 females, total 203); 46 to 55 (26 males, 7 females, total 33); over 55 (15 males, 3 females, total 18). Ethnicity is summarized as follows: Caucasian (897 males, 126 females, total 1023); Black (234 males, 23 females, total 257); Hispanic (6 males, 0 females); American Indian (5 males); and Asian (7 males, 1 female, total 8). Education level is as follows: Less than 8th grade (103 males, 13 females, total 116); Some High School (478 males, 47 females, total 525); GED (132 males, 17 females, total 149); High School Graduates (283 males, 43 females, total 326); Business/Technical School (125 males, 26 females, total 151); Some College (8 males, 2 females, total 10); College Graduate (14 males, 1 female, total 15) and Professional/Graduate Degree (6 males, 1 female, total 7).

Demographics of Group 2 are as follows. Age: Under 16 years (1, .6%); 16 to 25 (30, 16.9%); 26 to 35 (93, 52.5%); 36 to 45 (35, 19.8%); 46 to 55 (14, 7.9%); and over 55 (4, 2.3%). Ethnicity: Caucasian (152, 85.9%); Black (11, 6.2%); Hispanic (3, 1.7%); American Indian (2, 1.1%); and Other (9, 5.1%). Education: 8th grade or less (15, 8.5%); Some High School (36, 20.3%); GED (36, 20.3%); High School Graduate (63, 35.6%); Some college (23, 13.0%); Business/Technical School (1, .6%); College Graduate (2, 1.1%); and Graduate/Professional Degree (1, .6%).

The Group 3 consisted of 189 (75%) men and 64 (25%) women. Age was distributed as follows: Under 16 years (1, .4%); 16 to 25 (100, 39.5%); 26 to 35 (105, 51.5%); 36 to 45 (37, 14.6%); 46 to 55 (9, 3.6%); and over 55 (1, .4%). Ethnicity categories were the following: Caucasian (167, 66%); Black (52, 20.6%); Hispanic (13, 5.1%); American Indian (19, 7.5%) and Other (2, .8%). Education level was as follows: 8th grade or less (10, 4.0%); Some High School (95, 37.5%); GED (21, 8.3%); High School Graduate (75, 29.6%); Some College (45, 17.8%); Business/Technical School (3, 1.2%); College Graduate (3, 1.2%); and Graduate/Professional degree (1, 0.4%).

Results and Discussion

Reliability coefficient alphas are presented in Table 12. The three groups are presented together for comparison purposes: Group 1: 1,299 adults, Group 2: 177 adults and Group 3: 189 adults; Total number of participants = 1,665. The results of this study demonstrate the reliability (internal consistency) of the VI. Reliability coefficient alphas for all VI scales are very high. These results strongly support the reliability of the Victim Index.

Table 12. Reliability coefficient alphas. (N = 1,665)

All coefficient alphas are significant at p<.001.

VI Scales	Group 1 1,299 Adults	Group 2 177 Adults	Group 3 253 Adults
Truthfulness Scale	.81	.85	.86
Resistance Scale	.88	.92	.90
Substance Abuse Screen	.93	.84	.91
Stress Coping Abilities	.91	.92	.92

T-tests were calculated for all VI scales to assess possible sex differences in Group 1 adults. Significant gender differences were demonstrated on the Substance Abuse Screen scale. This results are presented in Table 13.

Table 13. Sex differences in Group 1 adult participants sample (N = 1,299).

VI	Mean Scale Score		Significance
Scale	Males	Females	Level
Substance Abuse Screen	9.30	13.94	P<.05

Significant gender differences were not observed on the other VI scales, consequently separate male and female scoring procedures were established for only the Substance Abuse Screen Scale.

Higher male scores on these two VI scales likely reflect more straightforward admissions by men. Men appear to be more open than women regarding their substance (alcohol and other drugs) abuse behavior.

22. Validation of Victim Index Scales in a Sample of Vocational Rehabilitation Clients

The Victim Index (VI) was investigated in a sample of individuals who are generally associated with those who have disadvantages. The participants in the present study (1991) were Vocational Rehabilitation clients. These are individuals who have some form of handicap and require assistance in obtaining and maintaining employment.

Selected scales in the Minnesota Multiphasic Personality Inventory (MMPI) were used as criterion measures for the different Victim Index (VI) scales. Comparisons to previous validating studies which used substance abuse subjects will be made to determine the applicability of the VI to various adult samples.

Method

The subjects used in the present study consisted of 74 Vocational Rehabilitation clients. The VI and MMPI were administered in counterbalanced order. Product-moment correlations were calculated between VI scales and selected criterion MMPI scales. The Truthfulness Scale was validated with the MMPI L Scale, F Scale and K Scale. The Resistance Scale was validated with the MMPI Social Maladjustment (SOC), Authority Conflict (AUT), Authority Problems (PD2), Suspiciousness (TSC-III) and Social Alienation (SCIA). The Substance Abuse Screen Scale was validated with the MMPI MacAndrew Scale (MAC) and Psychopathic Deviate (PD). The Stress Coping Abilities Scale was validated with the MMPI Psychasthenia (PT), Taylor Manifest Anxiety (MAS) and Tension (TSC-VII).

Result and Discussion

There were 74 Vocational Rehabilitation clients used in the study. There were 49 males and 25 females. Age was distributed (frequency given in parentheses) as follows: 18 to 21 years (11), 22 to 25 years (7), 26-

29 years (11), 30-33 years (14), 34-37 years (10), 42-45 years (9), 46-49 years (8), 50 or more years (4). Six education categories were represented: 8th grade or less (11), Partially completed High School (18), GED (14), High School Graduate (21), Some College (6), College Graduate (4). There were 47 Caucasians, 12 Blacks, 8 Hispanics, 6 American Indians and 1 other ethnicity. The correlation results are summarized in Table 14. For clarity, VI scales are summarized individually and their MMPI scale correlations discussed.

The **Truthfulness Scale** was significantly correlated with the MMPI scales that are associated with truthfulness measures. The VI Truthfulness Scale was significantly correlated with the MMPI L Scale ($p<.001$), F scale ($p<.01$) and K scale ($p<.01$). When a person attains elevated L, F or K scales on the MMPI, other MMPI scale scores are invalidated. Similarly, an elevated Truthfulness Scale score on the VI invalidates other VI scale scores.

The **Resistance Scale** correlated significantly with the MMPI Social Alienation Scale (SCIA, $p<.05$). The expected correlations with Social Maladjustment (SOC), Authority Problems (AUT), Suspiciousness (TSC-III), TSC-V (Resentment) and Authority Problems (PD) was not demonstrated. It could be that Vocational Rehabilitation clients are generally cooperative and willing to go along with authority because they stand to benefit. Length of Vocational Rehabilitation involvement would be an interesting variable to study in future research.

Table 14. Product-moment correlations.
Vocational Rehabilitation Clients (1991, N=74)

		VI SCALES		
MMPI SCALES	**Truthfulness**	**Resistance**	**Stress Coping**	**Substance Abuse Screen**
L	.493**	.009	-.105	-.141
F	-.344*	.226	.440**	.435**
K	.344*	-.066	-.308*	-.257
PD	-.109	.112	.568**	.454**
MAC	-.177	.051	.168	.303*
SOC	-.379**	.123	.259	.431**
AUT	-.360**	.149	.204	.339**
PD2	-.293*	.017	.209	.381**
SCIA	-.397**	.258	.390**	.349*
TSC-III	-.372**	.076	.254	.319**
TSC-VII	.480**	.151	.441**	.295*
PT	-.135	.264	.501**	.273*
MAS	-.245	.085	.574**	.396**

NOTE: level of significance, * < .01, ** < .001

The **Substance Abuse Screen Scale** was significantly correlated with the MMPI MacAndrew Scale ($p<.01$) and the PD scale (Psychopathic Deviate, $p<.001$). High MMPI PD and MAC scores are often associated with substance abuse.

The **Stress Coping Abilities Scale** correlates most significantly with the MMPI MAS (Taylor Manifest Anxiety, $r = .574$, $p<.001$), PT (Psychasthenia, $r = .501$, $p<.001$) and TSC-VII (Tension, $r = .568$, $p<.001$). These findings are consistent with earlier research.

These results are consistent with earlier research involving the administration of both the VI and MMPI in that VI scales are significantly correlated with criterion MMPI scales. An exception in the present study is that the Resistance Scale did not correlate significantly with all criterion scales. The lack of a significant correlations with the Resistance Scale is likely due to the lack of a resistant attitude in the participants of this study. Vocational Rehabilitation may be unlike many other assessment milieus where resistance is not expected. This is suggested by a somewhat lower correlation between the Truthfulness Scale and L Scale (.493 present study and .60 previous study) due to a lower degree of faking good in the present study. These findings support the validity of the VI.

Comparisons between the present study and previous research that tested inpatient chemical dependency clients shows some interesting results. As stated above, there was a somewhat lower correlation between the Truthfulness Scale and L Scale. There was a higher correlation between the Substance Abuse Screen Scale and MacAndrew Scale in the substance abuser study.

Of particular interest in this study are the correlation results of the Resistance Scale. The present studies lower correlations between the Resistance Scale scores and criterion scale scores are of interest when compared to correlations of the substance abusers. It may be that the present subjects do not exhibit resistant attitudes because they are accustomed to cooperating with authority. This finding provides further validation of the VI.

23. Validation of Victim Index Scales in a Sample of Adults

The present study (1992) was conducted to validate the Victim Index (VI) with adult probation clients with criterion measures from selected Minnesota Multiphasic Personality Inventory (MMPI) scales. This study was done to provide validation of the VI and to compare these findings to those obtained in previous research for different client samples. The subjects used in the present study were individuals who had been arrested, convicted and entered the probation system.

Method

There were 171 adult probationers included in the present study. There were 129 males and 42 females. Age was distributed (frequency given in parentheses) as follows, Under 17 years (2), 18-21 years (20), 22-25 years (25), 26-29 years (27), 30-33 years (24), 34-37 years (22), 38-41 years (17), 42-45 years (13), 46-49 years (5), 50-53 years (8), over 54 years (8). Education was represented as follows: 8th grade or less (20), Partially completed High School (43), GED (16), High School Graduate (53), Some College (36) and College Graduate (3).

The VI and MMPI were administered in counterbalanced order. Product-moment correlations were calculated between VI scales and selected MMPI scales. The MMPI scales used for criterion measures were as follows. The Truthfulness Scale was validated with the MMPI L Scale, F Scale and K Scale. The Resistance Scale was validated with the MMPI SOC Scale, SCIA Scale, AUT Scale and TSC-III Scale. The Substance Abuse Screen Scale was validated with the MMPI MacAndrew Scale and PD Scale. The Stress Coping Abilities Scale was validated with the MMPI PT Scale, MAS Scale and TSC-VII Scale.

Key to MMPI Scales: **L** (Lie Scale), **F** (Validity), **K** (Validity Correction), **PD** (Psychopathic Deviate), **PT** (Psychasthenia), **MAS** (Taylor Manifest Anxiety) **MAC** (MacAndrew), **SOC** (Social Maladjustment), **AUT** (Authority Conflict), **TSC-III** (Suspiciousness), **TSC-VII** (Tension), **PD2** (Authority Problems) and **SCIA** (Social Alienation).

Results and Discussion

The results of this study (1992, N = 171) are summarized in Table 15.

The **Truthfulness Scale** was highly significantly correlated with the MMPI L Scale, F Scale and K Scale. The scales in the MMPI that relate to truthfulness are significantly correlated with the VI Truthfulness Scale. This supports the validity of the VI Truthfulness Scale.

The **Resistance Scale** correlates highly significantly with the MMPI AUT Scale, SCIA Scale and TSC-III Scale. These results support the validity of the VI Resistance Scale.

The **Substance Abuse Screen Scale** correlates significantly with the MMPI PD Scale. The correlation with the MAC Scale was not significant. These results support the validity of the VI Substance Abuse Screen Scale.

The **Stress Coping Abilities Scale** correlates highly significantly with the MMPI PT Scale, MAS Scale and TSC-VII Scale. These results support the validity of the VI Stress Coping Abilities Scale.

Table 15. Product-moment correlations.
Adult Probation Clients (1992, N=171)

MMPI SCALES	Truthfulness	Resistance	Stress Coping	Substance Abuse Screen
L	.511**	.089	-.065	-.186*
F	-.293**	.276**	.462**	.379**
K	.458**	-.077	- .319**	-.201*
PD	-.241**	.065	.491**	.312**
PT	-.279**	.069	.470**	.202*
MAS	-.394**	.031	.536**	.288**
MAC	.005	.127	.076	.090
SOC	-.335**	.033	.329**	.273**
AUT	-.321**	.262**	.217*	.238**
TSC-III	-.373**	.209*	.247**	.195*
TSC-VII	-.431**	.052	.446**	.222*
PD2	-.161	.031	.105	.165
SC1 A	-.377**	.249**	.447**	.283**

NOTE: level of significance * p<.01, ** p<.001

The present study supports the validity of the VI in a sample of adult probationers. VI scales correlate significantly, in predicted directions with criterion MMPI scales. The MMPI was selected for this criterion-related validity study because it is the most widely used and respected personality test in the United States. A short coming of the MMPI MAC Scale (MacAndrew) is that it is a discriminant scale that discriminates between known substance abusers and non-abusers. However, none of the MacAndrew items relate to alcohol or drugs per se. The VI Substance Abuse Screen Scale is correlated with the PD Scale which has been shown do be valid for substance abusers and adult probationers.

With the exception of the MacAndrew Scale, these correlation results are in close agreement with previous studies that validated the VI with criterion measures selected from the MMPI. The results of the present study support the validity of the VI.

24. A Study of Victim Index Reliability

The present (1992) study was conducted to evaluate the statistical reliability of the Victim Index in an inpatient adult sample. As the population of victims could conceivably consist of widely varying people, it is important to continue to investigate statistical (reliability) properties on the various victim population databases.

Method and Results

This study (1992) involved 365 inpatients (222 males and 143 females). The demographic composition of the sample was the following. Age: 18 years or less (41, 1.2%); 19 years to 29 years of age (134, 36.7%); 30 years to 39 years (111, 30.4%); 40 to 49 (47, 12.9%); 50 to 59 (20, 5.5%) and 60 + years (12, 3.3%). Gender: males (222, 60.8%) and females (143, 39.2%). Ethnicity/Race: Caucasian (304, 83.3%); Black (28, 7.7%); Hispanic (21, 5.8%); Asian (3, 0.8%); Native American (7, 1.9%) and Other (2, 0.5%). Education: 8th grade or less (19, 5.2%); Partially Completed High School (82, 22.5%); G.E.D. (28, 7.7%); High School Graduate (116, 31.8%); Partially Completed College (75, 20.5%); Technical/Business School (6, 1.6%); College Graduate (30, 8.2%); Professional/Graduate School (9, 2.5%). Marital Status: Single (190, 52.1%); Married (108, 29.6%); Divorced (21, 5.8%); Separated (38, 10.4%); Widowed (7, 1.9%).

Coefficient Alpha reliability (internal consistency) coefficients are presented in Table 16.

Table 16. Reliability coefficient alphas. (1992, N=365)
All reliability coefficients are significant at p<.001.

VI Scales	Coefficient Alpha
Truthfulness Scale	.85
Substance Abuse Screen	.90
Distress Scale	.87
Self-Esteem Scale	.91
Stress Coping Ability Scale	.95

This study supports the reliability of these scales of the Victim Index (VI). The coefficient alpha is the most widely used statistic of internal consistency or reliability. The VI produces similar results upon repetition. The VI is reliable.

25. A Study of Victim Index Reliability in a Sample of Adults

The present study (1992) was conducted to investigate reliability and possible sex differences in adult participants.

Method and Results

There were 306 adult participants included in the present study. There were 241 men (78.8%) and 65 women (21.2%). Demographics are presented in the following table.

AGE GROUP			ETHNICITY			EDUCATION		
Under 16 years:	1,	0.3%	Caucasian:	228,	74.5%	8th grade or less:	11,	3.6%
16 to 25 years:	146,	47.7%	Black:	66,	21.6%	Some High School:	71,	23.2%
26 to 35 years:	112,	36.6%	Hispanic:	3,	1.0%	GED:	24,	7.8%
36 to 45 years:	34,	11.1%	Asian:	3,	1.0%	High School Grad.:	114,	37.3%
46 to 55 years:	10,	3.3%	Am. Indian:	5,	1.6%	Some College:	69,	22.5%
Over 55 years:	3,	1.0%	Other:	1,	0.3%	Business/Tech. Degree:	8,	2.6%
						College Graduate:	7,	2.3%
						Grad/Prof. Degree:	2,	0.7%

T-test comparisons indicated there were no sex differences for age group, ethnicity or education levels. T-test comparisons between males and females on VI scales indicate that males scored significantly higher than females on the Substance Abuse Screen Scale. These results are in agreement with sex differences that were found in previous VI research.

Reliability coefficient alphas are presented in Table 17. All coefficient alphas were significant at $p<.001$. These results support the reliability of these scales of the VI in the assessment of adult participants.

Table 17. Reliability coefficient alpha. Adult participants (N = 306).
All coefficient alphas are significant at p<.001.

VI Scales	Coefficient Alpha
Truthfulness Scale	.89
Resistance Scale	.85
Substance Abuse Screen	.93
Stress Coping Abilities	.92

These results are in close agreement with reliability coefficient alphas found in previous VI studies. These results again demonstrate the internal consistency of the Victim Index.

26. A Study of VI Reliability in Five Samples of Adults

Five adult samples were included in the present study (1993) to further investigate reliability and sex differences in different samples and assessment milieus. These groups of participants represented diversion program and public assistance (welfare) clients, department of corrections probationers, and outpatient probationers.

Methods and Results

The five groups that participated in the present study were made up of participants located in different areas of the country. The **Group 1** consisted of 110 misdemeanor diversion program and public assistance (welfare) clients. Demographics for this diversion group are summarized as follows: Gender (92 males and 18 females). Age: 16 to 25 (27.3%), 26 to 35 (35.5%), 36 to 45 (26.4%), 46 to 55 (7.3%), and Over 55 (3.6%). Ethnicity: Caucasian (62.7%), Black (37.3%). Education: 9th grade or less (2.7%), Some High School (21.8%), GED (6.4%), High School Graduate (22.7%), Some College (23.6%), Technical/Business School (10%), College Graduates (10%) and Graduate/Professional Degree (2.7%).

Group 2 consisted of 510 Department of Corrections probationers (475 male and 35 female). Demographics are summarized for age as follows: Under 16 (4.0%), 16 to 25 (55.1%), 26 to 35 (31.6%), 36 to 45 (9.6%), 46 to 55 (2.5%) and Over 55 (8.0%). Ethnicity: Caucasian (26.7%), Black (71.4%), Hispanic (1%), Asian (0.2%), and Other (0.8%). Education: Less than 9th grade (5.5%), Some High School (44.3%), GED (5.1%), High School Graduate (27.6%), Some College (12.4%) Technical/Business School (0.4%), College Graduate (3.7%) and Graduate/Professional Degree (1.0%).

Group 3 consisted of 859 outpatients (724 males and 135 females). Age is summarized as follows: Under 16 (0.3%), 16 to 25 (30.8%), 26 to 35 (39%), 36 to 45 (21.9%), 46 to 55 (6.1%) and Over 55 (1.9%). Ethnicity: Caucasian (82.8%), Black (15.1%), Hispanic (1.0%), Asian (0.5%), American Indian (0.3%) and Other (0.2%). Education: 9th grade or less (4.1%), Some High School (29.3%), GED (4.8%), High School Graduate (41.2%), Some College (16.2%), Technical/Business School (0.3%), College Graduate (3.8%).

Group 4 consisted of another 1479 outpatient and probation respondents (1291 males and 188 females). Age demographics were: Under 16 (0.3%), 16 to 25 (38.9%), 26 to 35 (36.2%), 36 to 45 (18.0%), 46 to 55 (4.9%) and Over 55 (1.6%). Ethnicity: Caucasian (61.9%), Black (36.2%), Hispanic (0.9%), Asian (0.3%), American Indian (0.2%) and Other (0.4%). Education: 9th grade or less (4.5%), Some High School (33.9%), GED (5.0%), High School Graduate (35.2%), Some College (15.4%), Technical/Business School (1.1%), College Graduates (4.3%) and Graduate/Professional Degree (0.7%).

Group 5 consisted of 1,042 adult probationers. There were 835 (80.1%) males and 207 (19.9%) females. This sample is described as follows: Age: 18 years or younger (10.8%); 19 to 29 (43.8%); 30 to 39 (31.0%); 40 to 49 (10.5%); 50 to 59 (3.3%); and 60 & over (0.7%). Ethnicity: Caucasian (73.6%); Black (23.2%); Asian (0.3%); American Indian (1.2%); Hispanic (1.5%); and Other (0.1%). Education: 8th grade or less (7.9%); Partially Completed High School (36.5%); High School Graduate (34.2%); Partially Completed College (7.9%); College Graduate (0.8%); and Professional/ Graduate School (12.8%). Marital Status: Single (57.5%); Married (18.9%); Divorced (16.7%); Separated (6.0%); and Widowed (0.5%). Employment Status: Employed (50.6%); Unemployed (49.2%).

Reliability coefficient alphas for the 4,000 clients represented in these five groups are presented in Table 18. All coefficient alphas are significant at $p<.001$. These results strongly support the reliability of these scales of the Victim Index.

Table 18. Reliability coefficient alphas for five adult samples (1993, N = 4,000).
All coefficient alphas are significant at p<.001.

VI Scales	1 Diversion Clients N = 110	2 DOC Probationers N = 510	3 Outpatient Probationers N = 859	4 Outpatient Probationers N = 1479	5 Probationers N = 1042
Truthfulness Scale	.87	.87	.87	.87	.90
Resistance Scale	.85	.88	.87	.86	.88
Substance Abuse Screen	.92	.93	.92	.92	.96
Stress Coping Abilities	.99	.91	.93	.93	.93

T-test comparisons of male/female differences in VI scale scores (N = 4,000) showed varied results. For Group 1 diversion and welfare clients, there were no sex differences observed on any of the VI scales. Group 2 DOC probationers exhibited significant sex differences on three of the VI scales, i.e., Truthfulness Scale, Substance Abuse Screen Scale and the Stress Coping Abilities Scale. For Groups 3 and 4 outpatient probationers, and Group 5 probationers, significant sex differences were found on the Alcohol Scale. Consistent male/female differences are found on the Substance Abuse Scale across different subject groups and locations around the country. These results suggest that men are on the average more open with regard to self-report and their alcohol consumption than most women. Higher male scores likely reflect more straightforward admissions by men.

27. Reliability of the Victim Index

The purpose of the present study (1994) was to test the reliability of the Victim Index. Three subject samples are included in the study and they total 4,067 adult participants.

Method

There were three groups of participants included in the present study. There were 2,734 participants in Group 1, 344 participants in Group 2 and 989 participants in Group 3. Demographic composition of **Group 1** participants is as follows: There were 2,182 (79.8%) males and 552 (20.2%) females. Age: 19 years and younger (11.9%); 20 to 29 years (46.0%); 30 to 39 years (29.8%); 40 to 49 years (9.4%); 50 to 59 years (2.2%); 60 to 69 years (0.3%); 70 + years (0.3%). Ethnicity: Caucasian (50.4%); Black (17.4%); Hispanic (31.0%); Asian (0.3%); American Indian (0.5%); Other (0.4%). Marital Status: Single (53.2%); Married (25.5%); Divorced (12.6%); Separated (7.5%); Widowed (0.7%); and Missing (0.5%).

Group 2 demographic composition is as follows: There were 273 males (79.4%) and 71 females (20.6%) participants. Age: 19 and younger (9.3%); 20 to 29 years (46.5%); 30 to 39 years (29.1%); 40 to 49 years (9.3%); 50 to 59 years (4.1%); and 60 to 69 years (1.5%). Ethnicity: Caucasian (55.5%); Black (15.1%); Hispanic (24.1%) American Indian (3.8%); and Other (1.5%). Education: 8th grade or less (2.0%); Partially Completed High School (31.1%); High School Graduates (41.0%); and Other (26.9%). Marital Status: Single (59.3%); Married (25.3%); Divorced (7.8%); Separated (6.7%); and Widowed (0.9%).

Group 3 demographic composition is as follows: Of the 989 participants there were 721 (72.9%) males and 267 (27.0%) females. Age: 16 to 20 years (15.3%); 21 to 25 years (22.4%); 26 to 30 years (18.1%); 31 to 35 years (17.3%); 36 to 40 (11.1%); 41 to 45 years (7.3%); 46 to 50 years (3.7%); 51 to 55 years (2.0%); 56 to 60 years (0.9%); 61 and older (1.8%). Ethnicity: Caucasian (57.5%); Black (10.2%); Hispanic (23.5%); Asian (0.5%); American Indian (5.8%); and Other (2.3%). Marital Status: Single (58.9%); Married (22.9%); Divorced (10.5%); Separated (6.8%); and Widowed (0.7%). Employment Status: Employed (62.3%); Unemployed (37.4%).

The VI was administered to 4,067 adult participants as part of routine evaluation programs. Subjects were administered the VI individually in paper-pencil test format.

Results

Reliability coefficient alphas for the three groups (total N = 4,067) are presented in Table 19.

These results support the reliability of the Victim Index. Coefficient alphas for all scales are highly significant. These results support the reliability of these scales of the Victim Index.

Table 19. Reliability coefficient alphas for Victim Index (N = 4,067).
All coefficient alphas are significant at p<.001.

VI Scale	1 Participants N = 2,734	2 Participants N = 344	3 Participants N = 989
Truthfulness Scale	.88	.87	.88
Resistance Scale	.85	.86	.85
Substance Abuse Screen	.94	.91	.91
Stress Coping Abilities	.91	.92	.92

28. Victim Index Reliability Study on Different Samples of Participants

In 1995 several adult samples (total N = 10,740) were studied to test the reliability of the Victim Index. There were four adult samples included in the study. **Group 1** consisted of 3,790 adults, 2,990 (78.9%)

males and 800 (21.1%) females. Demographic composition of this group is as follows: Age: 18 and less (20.5%); 19 to 29 (44.1%); 30 to 39 (24.7%); 40 to 49 (4.9%); 50 to 59 (2.3%); 60 to 69 (0.8%); and 70 & over (.01%). Ethnicity: Caucasian (64%); Black (25.5%); Hispanic (8%); Asian (0.5%); American Indian (1.2%); and Other (0.8%). Marital Status: Single (57.3%); Married (23.4%); Divorced (12.4%); Separated (6.2%); and Widowed (0.7%).

Group 2 consisted of 763 participants, 570 (74.7%) males and 193 (25.3%) females. Demographic composition is as follows: Age: 19 and under (18.6%); 20 to 29 (41.5%); 30 to 39 (26.6%); 40 to 49 (8.5%); 50 to 59 (3.5%); and 60 and older (0.7%). Ethnicity: Caucasian (50.7%); Black (29.5%); Hispanic (16.0%); Asian (1.6%); Native American (0.4%) and Other (1.0%). Education: 8th grade or less (7.9%); Some High School (29.0%); High School Graduate (46.5%); Some College (12.8%); and College Graduate (3.8%). Marital Status: Single (48.8%); Married (29.5%); Divorced (11.7%); Separated (8.4%) and Widowed (0.4%). Employment: Employed (70.4%) and Unemployed (29.0%).

Group 3 consisted of 4, 899 participants. Demographic composition is summarized as follows. Males (3,938; 80.4%); Females (961, 19.6%). Age: 19 and under (12.0%); 20 to 29 (41.4%); 30 to 39 (30.6%); 40 to 49 (12.6%); 50 to 59 (2.8%); and 60 or older (0.6%). Ethnicity: Caucasian (57.5%); Black (22.4%), Hispanic (16.6%); Asian (0.1%); Native American (1.7%); Other (1.3%). Education: 8th grade or less (12.7%); Some High School (36.0%); High School Graduate (93.5%); Some College (9.2%); and College Graduate (3.6%). Marital Status: Single (55.1%); Married (24.0%); Divorced (12.1%); Separated (7.2%) and Widowed (0.8%). Employed: Employed (57.8%) and Unemployed (41.5%).

Group 4 consisted of 306 welfare clients. Demographic composition of this group is as follows. Gender: Males (261, 85.3%); Females (45, 14.7%). Age: 19 and younger (4.6%); 20 to 29 (38.2%); 30 to 39 (36.3%); 40 to 49 (17.6%); 50 to 59 (26%); and 60 or older (0.7%). Ethnicity: Caucasian (57.2%); Black (5.9%); Hispanic (23.5%); Asian (0.3%); Native American (12.1%); Other (1.0%). Education: 8th grade or less (12.4%); Some High School (19.3%); High School Graduate (30.4%); Some College (31.7%); College Graduate (6.2%). Marital Status: Single (54.2%); Married (21.2%); Divorced (16.0%); and Separated (8.5%). Employment: Employed (63.1%) and Unemployed (36.9%).

Group 5 consisted of 982 adult participants. There were 755 (76.9%) males and 207 (23.1%) females. Demographic composition is summarized as follows. Age: 19 and younger (6.9%); 20 to 29 (46.5%); 30 to 39 (35.2%); 40 to 49 (10.1%) 50 to 59 (0.8%); and 60 or older (0.4%). Ethnicity: Caucasian (37.4%), Black (67.9%); Hispanic (1.1%); Asian (0.2%); Native American (1.6%); and Other (1.4%). Education: 8th grade or less (16.4%); Some High School (36.0%); High School Graduate (39.2%) Some College (5.7%); College Graduate (2.6%). Marital Status: Single (71.0%); Married (11.3%); Divorced (9.2%); Separated (4.5%) and Widowed (0.7%).
Reliability coefficient alphas for all five groups (total N = 10,740) are presented in Table 20.

Table 20. Reliability coefficient alphas. (1995, N = 10,740)
All coefficient alphas are significant at p<.001.

VI Scale	Group 1 N = 3,790	Group 2 N = 763	Group 3 N = 4,899	Group 4 N = 306	Group 5 N = 982
Truthfulness Scale	.89	.86	.88	.89	.86
Resistance Scale	.86	.86	.86	.86	.85
Substance Abuse Screen	.93	.92	.93	.93	.92
Stress Coping Abilities	.93	.92	.93	.93	.91

These results support the reliability (internal consistency) of these scales of the VI. The VI is an objective and reliable assessment instrument. Reliability coefficient alphas across the five groups of adult participants are in close agreement. These results suggest that the VI is applicable across different national adult samples. The VI is a reliable adult risk assessment instrument.

29. Victim Index Reliability in Three Samples of Female Victims

A study (1996) was conducted to determine the reliability of the VI in three female victim samples. **The first group contained 56 female participants.** Demographic composition of Group 1 is as follows. Age: 18 years or younger (17.6%); 19 through 29 (56.4%); 30 through 39 (17.2%); 40 through 49 (4.4%); 50 through 59 (2.9%); and 60+ (1.5%). Ethnicity: Caucasian (50.0%); Black (7.8%); Hispanic (32.8%); Native American (2.9%); Other (2.5%). Education: 8th grade or less (2.5%); Partially Completed High School (24.0%); G.E.D. (6.4%); High School Graduate (30.9%); Partially Completed College (29.4%); Technical/Business School (0.5%); College Graduate (4.4%). Marital Status: Single (69.1%); Married (16.7%); Divorced (3.4%); Separated (2.0%).

Group 2 consisted of 37 females. Demographic composition of Group 2 is as follows. Age: 18 years or younger (10.3%); 19 through 29 (41.4%); 30 through 39 (28.4%); 40 through 49 (14.7%); 50 through 59 (3.4%); 60 years and older (1.7%). Ethnicity: Caucasian (81.0%); Black (16.4%); Hispanic (1.7%); Asian (0.9%). Education: 8th grade or less (6.9%); Partially Completed High School (19.0%); G.E.D. (12.1%); High School Graduate (23.3%); Partially Completed College (31.9%); Technical/Business School (3.4%); College Graduate (2.6%); and Professional/Graduate School (0.9%). Marital Status: Single (60.3%); Married (22.4%); Divorced (6.9%); Separated (7.8%); Widowed (1.7%).

Group 3 consisted of 191 females. Demographic composition of Group 3 is as follows. Age: 18 years or younger (3.0%); 19 through 29 (33.2%); 30 through 39 (38.3%); 40 through 49 (21.0%); 50 through 59 (3.7%); 60 years and older (1.0%). Ethnicity: Caucasian (78.3%); Black (20.6%); Hispanic (0.2%); Asian (0.2%); Native American (0.2%); and Other (0.6%). Education: 8th grade or less (1.9%); Partially Completed High School (17.5%); G.E.D. (10.5%); High School Graduate (44.0%); Partially Completed College (20.3%); Technical/Business School (1.1%); College Graduate (3.7%); Professional/Graduate School (0.5%). Marital Status: Single (40.3%); Married (30.5%); Divorced (21.6%); Separated (6.5%); Widowed (1.0%).

Reliability coefficient alphas are represented in Table 21 and represent 284 female victims.

Table 21. Reliability coefficient alphas (1996, N = 284).
All coefficient alphas are significant at p<.001.

VI Scale	Group 1 N = 56	Group 2 N = 37	Group 3 N = 191
Truthfulness Scale	.85	.85	.85
Distress Scale	.87	.84	.93
Morale Scale	.88	.85	90
Substance Abuse Screen	.88	.88	.90
Self-Esteem Scale	.95	.95	.95
Resistance Scale	.87	.84	.93
Stress Coping Abilities	.90	.91	.94

These results support the internal consistency (reliability) of the VI for these three victim samples. Reliability coefficients are consistent across the different female victim samples. These results are similar to those reported earlier on other client populations. Similar results will be obtained upon replication or retest. Outcomes are objective, verifiable and reproducible. Victim Index test results are reliable.

30. Victim Index Reliability in Two Samples of Women Victims

A study (1996-1997) was conducted to determine the reliability of the Victim Index in two samples of victims composed entirely of women. **The first group consisted of 323 female victims in outpatient counseling.** Demographic composition of this sample was the following: Age: 18 years or less (8.2%); 19 through 29 (34.9%); 30 through 39 (35.9%); 40 through 49 (14.8%); 50 through 59 (3.8%); 60 years and older (2.3%). Ethnicity: Caucasian (69.4%); Black (18.0%); Hispanic (9.2%); Asian (0.7%); Native American (1.7%); and Other (0.9%). Education: 8th grade or less (56.8%); Partially Completed High School (21.3%); G.E.D. (1.6%); High School Graduate (12.0%); Partially Completed College (6.5%); Technical/Business School (0.2%); College Graduate (1.1%); Professional/Graduate Degree (0.3%). Marital Status: Single (56.0%); Married (23.8%); Divorced (12.4%); Separated (6.2%); Widowed (1.5%).

Group 2 consisted of 613 female outpatient clients. Demographic composition of this sample was as follows. Age: 18 years or younger (7.6%); 19 through 29 (36.8%); 30 through 39 (34.6%); 40 through 49 (15.6%); 50 through 59 (3.6%); 60 and older (1.8%). Ethnicity: Caucasian (70.2%); Black (17.5%); Hispanic (9.1%); Asian (0.5%); Native American (1.3%); Other (1.0%). Education: 8th grade or less (32.1%); Partially Completed High School (20.5%); G.E.D. (5.3%); High School Graduate (24.0%); Partially Completed College (14.2%); Technical/Business School (0.7%); College Graduate (2.4%); Professional/Graduate Degree (0.4%). Marital Status: Single (53.0%); Married (24.8%); Divorced (13.9%); Separated (5.9%); Widowed (1.2%).

Reliability coefficient alphas are represented in Table 22 and represent 936 female victims.

Table 22. Reliability coefficient alphas (1996-1997, N = 936, women).
All coefficient alphas are significant at p<.001.

VI Scale	Group 1 N = 323	Group 2 N = 613
Truthfulness Scale	.86	.84
Distress Scale	.84	.90
Morale Scale	.85	.87
Substance Abuse Screen	.99	.89
Self-Esteem Scale	.95	.95
Resistance Scale	.84	.90
Stress Coping Abilities	.92	.93

These results support the reliability of the VI for these two samples of female victims. These results are similar to those reported earlier on other client populations. All coefficient alphas are significant at p<.001. These results support the reliability of the Victim Index.

31. Reliability and Scale Risk Range Accuracy of the Victim Index in a Sample of Females

This study (1998) was conducted to test the reliability and accuracy of the Victim Index in a sample of female participants. Reliability of the VI and risk range percentile score accuracy was investigated in the present study.

Risk range percentile scores are calculated for each VI scale. These risk range percentile scores are derived from scoring equations based on responses to scale items and Truth-Corrections, 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 VI risk range percentile scores involves comparing the risk range percentile scores obtained from VI test results to the predicted risk range percentages as defined above. The percentages of participants expected to fall into each risk range are the following: Low Risk **(39%)**, Medium Risk **(30%)**, Problem Risk **(20%)** and Severe Problem or Maximum Risk **(11%)**. The actual percentage of individuals falling in each of the four risk ranges, based on their risk range percentile scores, was compared to these predicted percentages.

Method and Results

The subjects in this study consisted of 608 females. Demographic composition of these participants is as follows: Age: 19 & under (18%); 20-29 (34%); 30-39 (32%); 40-49 (14%); 50-59 (2%) and 60 & over (1%). Ethnicity: Caucasian (62%); Black (25%); Hispanic (10%); Asian (1%); Native American (1%) and Other (1%). Education: Eighth grade or less (6%); Some H.S. (32%); H.S. graduate (42%); Some college (14%) and College graduate (4%). Marital Status: Single (47%); Married (25%); Divorced (18%); Separated (9%) and Widowed (2%).

Reliability coefficient alphas are presented in Table 23 for 608 females.

Table 23. Reliability coefficient alphas (N = 608).
All coefficient alphas are significant at p<.001.

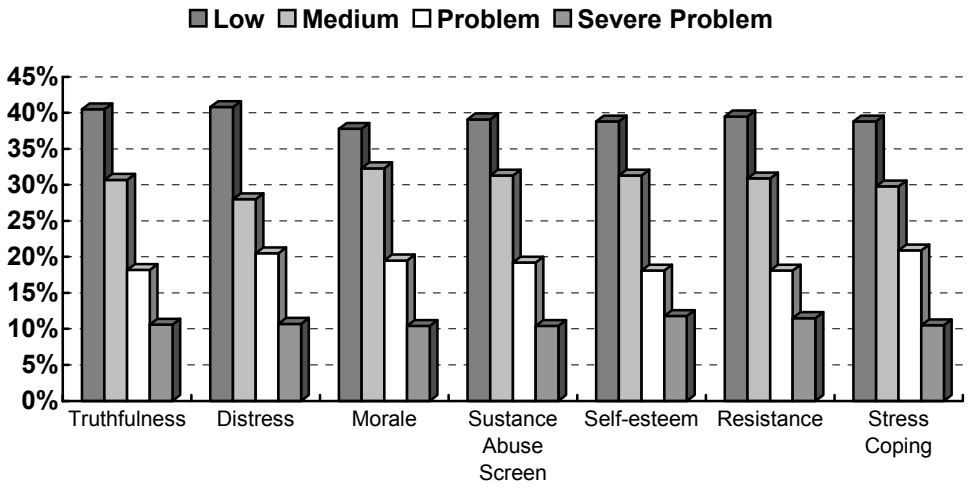
VI Scale	Welfare Clients N = 608
Truthfulness Scale	.89
Distress Scale	.84
Morale Scale	.80
Substance Abuse Screen	.95
Self-Esteem Scale	.86
Resistance	.82
Stress Coping Abilities	.94

The results of the study support the reliability of the VI. All coefficient alphas are significant at p<.001. All scale reliability coefficients maintained high levels. These results show that the Victim Index is a reliable risk assessment instrument.

The risk range percentile score results for the 608 female participants administered the VI are presented in Table 24. These obtained risk range percentile scores are shown in the graph with the actual data shown in the table below the graph. The obtained risk range scores can be compared to the predicted risk range

scores that are shown in the right-hand column of the table.

Table 24. Risk Range Percentile Scores, N = 608 females.



Risk Range	Truthfulness	Distress	Morale	Substance Abuse Screen	Self-esteem	Resistance	Stress Coping	**Predicted**
Low	40.5	40.8	37.8	39.1	38.8	39.5	38.8	**39%**
Medium	30.7	28.0	32.3	31.3	31.3	30.9	29.8	**30%**
Problem	18.2	20.5	19.5	19.2	19.2	18.1	20.9	**20%**
Maximum	10.6	10.7	10.4	10.4	10.4	11.5	10.5	**11%**

These results show that obtained risk range percentile scores closely approximated the predicted risk range percentile scores for each of the seven VI scales presented in Table 24 for the female clients included in the study. **These results indicate that the VI is a very accurate risk assessment instrument.**

The results of the comparisons between obtained risk percentages and predicted percentages show that all obtained scale risk range percentile scores were within 2.3 percent of predicted. For the Problem Risk and Maximum Risk categories, all but three comparisons showed that the obtained percentages were within one percentage point of predicted. **This is a very accurate assessment.**

32. A Study of the VI in a Sample of Victims

This 4-month study (1999) examined Victim Index (VI) results in a sample of 188 clients and patients in counseling. Several agencies participated. Reliability, validity and accuracy of the VI were studied. The term victimization includes people who have suffered loss, been victims of domestic violence or assault, or been violated (e.g., sexual assault). The participants in this study varied in terms their victimization. The VI is a special test. It is not the usual offender problem oriented screen. The VI is designed to evaluate people who have been victimized, cheated, injured, abused or otherwise harmed.

Two statistics procedures were used in the present study to test the validity of the VI. The first procedure involved t-test comparisons between problem and no problem clients (discriminant validity) and the second procedure involved correct identification of problem clients (predictive validity). For the t-test comparisons, clients that admitted to having problems were defined as problem clients. Admissions to VI items #147 (I have serious family, marital or relationship problems), #108 (Suffering: Physical/Mental) and #85 (Physical/Mental Pain) were used to define problems. The VI scales measure severity and the extent to

which clients have problems. It is expected that clients admitting to problems would score significantly higher on the different scales than no problem clients.

Clients who have been in treatment (alcohol or drug) would identify them as having alcohol or drug problems. It would be predicted that these clients would score in the problem risk range (70^{th} percentile and above). In the present study predictive validity was evaluated in the VI by using contingency tables defined by scale scores and treatment.

Risk range percentile scores are calculated for each VI scale. These risk range percentile scores are derived from scoring equations based on responses to scale items, Truth-Corrections based on the Truthfulness Scale scores, 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 VI risk range percentile scores involves comparing the risk range percentile scores obtained from VI 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 clients falling in each of the four risk ranges, based on their risk range percentile scores, was compared to these predicted percentages.

Method and Results

There were 188 clients included in this study (1999). There were 33 males (17.6%) and 155 females (82.4%). Demographic composition of these participants is as follows: Age: 19 & under (30%); 20-29 (21%); 30-39 (32%); 40-49 (12%); 50-59 (4%) and 60 & over (1%). Ethnicity: Caucasian (61%); Black (4%); Hispanic (15%); Asian (2%); Native American (15%) and Other (3%). Education: Eighth grade or less (7%); Some H.S. (37%); H.S. graduate (38%); Some college (13%) and College graduate (5%). Marital Status: Single (49%); Married (23%); Divorced (17%); Separated (9%) and Widowed (2%).

Reliability of the VI

Within-test reliability, or inter-item reliability coefficient alphas for the VI are presented in the Table 25. The higher coefficient alpha is the higher the reliability is. The generally accepted standard for reliability in assessment tests is an alpha of .75. As shown in the table, the VI has impressive reliability.

Table 25. Reliability of the VI (1999, N = 188)
All coefficient alphas are significant at p<.001.

VI SCALES	Coefficient Alphas
Truthfulness Scale	.87
Distress Scale	.89
Morale Scale	.95
Self-esteem Scale	.93
Resistance Scale	.82
Substance Abuse	.87
Stress Coping Abilities	.93

Validity of the Victim Index

Discriminant validity of the VI is shown by significant differences between clients who admit problems and those who do not. In the analysis presented in Table 26 VI test item #147: "I have serious family, marital or relationship problems." was used to define "Problem" clients and "No Problem" clients. There are 188 clients included in these analyses.

Table 26. Client status defined by self-admission of serious problems. (1999, N = 188)

VI Scale	No Problem Clients Mean (N=96)	Problem Clients Mean (N=92)	T-value	Level of significance
Truthfulness Scale	8.33	4.68	t = 5.45	p<.001
Resistance Scale	12.52	12.49	t = 0.03	n.s.
Morale Scale	15.72	38.49	t = 8.13	p<.001
Distress Scale	5.45	14.25	t = 6.67	p<.001
Stress Coping Abilities	126.33	162.89	t = 6.84	p<.001
Self-Esteem Scale	87.49	93.84	t = 3.11	p=.002
Substance Abuse	4.98	6.20	t = 1.12	n.s.

These t-test results show significant differences between Problem and No problem clients on the Truthfulness, Morale, Distress, Stress Coping Abilities and Self-Esteem Scales. Problem clients scored higher than the No Problem clients on these scales with the exception of the Truthfulness Scale. The VI accurately differentiated between No Problem and Problem clients. **These t-test results strongly support the discriminant validity of the Morale, Distress, Stress Coping Abilities and Self-Esteem Scales.**

The Truthfulness Scale shows that No Problem clients score higher than Problem clients do. There appears to be a tendency for No Problem clients to try and fake good or minimize their problems more than Problem clients. The Resistance Scale scores were nearly identical between these two client groups. This result is understandable because there should be no reason for clients to resist help. Problem clients had higher Substance Abuse Screen scores than No Problem clients but the difference was not statistically significant.

Discriminant validity was also investigated by defining clients in terms of pain and suffering. Suffering was determined by client responses to VI test item #108, "Suffering: Physical/Mental." Pain was determined by responses to #85, "Physical/Mental Pain."

Table 27. Client status defined by self-admission of suffering: physical or mental

VI Scale	Not Suffering Clients Mean (N=156)	Suffering Clients Mean (N=32)	T-value	Level of significance
Truthfulness Scale	7.04	4.13	t = 4.22	p<.001
Resistance Scale	11.92	15.34	t = 1.96	n.s.
Morale Scale	22.88	46.28	t = 5.91	p<.001
Distress Scale	7.16	22.41	t = 9.64	p<.001
Stress Coping Abilities	136.60	181.37	t = 10.31	p<.001
Self-Esteem Scale	89.02	98.28	t = 3.43	p=.001
Substance Abuse	5.62	5.34	t = 0.19	n.s.

Table 28. Client status defined by self-admission of physical or mental pain

VI Scale	No Pain Clients Mean (N=151)	Pain Clients Mean (N=37)	T-value	Level of significance
Truthfulness Scale	7.00	4.70	t = 3.09	p=.003
Resistance Scale	12.44	12.76	t = 0.23	n.s.
Morale Scale	22.70	43.84	t = 5.60	p<.001
Distress Scale	6.83	21.68	t = 10.08	p<.001
Stress Coping Abilities	136.70	174.95	t = 7.36	p<.001
Self-Esteem Scale	89.07	96.84	t = 3.02	p=.003
Substance Abuse	5.58	5.54	t = 0.03	n.s.

Discriminant validity was supported by these pain and suffering test items analyses, which were identical to the analysis above comparing clients with or without serious problems. These results indicate that discriminant validity of the VI is demonstrated for the three analyses presented above. The VI discriminates between clients on the basis of pain, suffering and having serious problems.

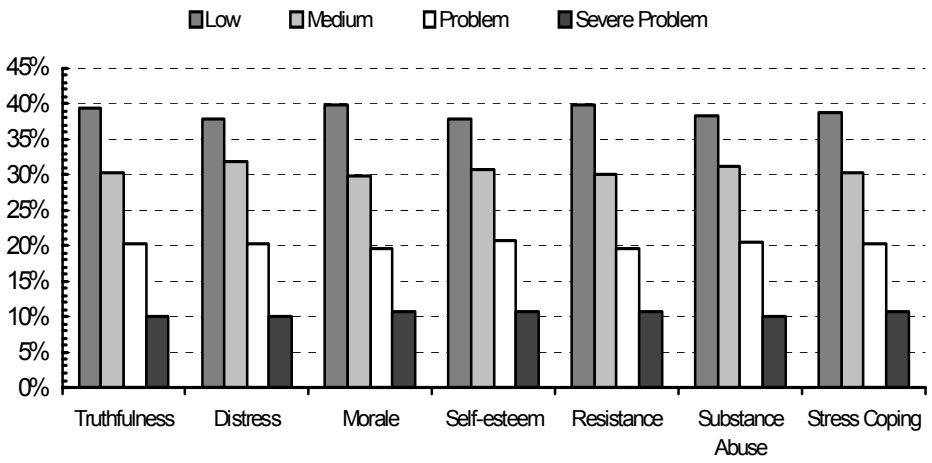
Predictive validity analyses show that the Substance Abuse Screen Scale accurately identifies clients who have alcohol and drugs problems. Substance abuse treatment information is obtained from clients' answers to VI test items (#141 & #143) concerning alcohol and drug treatment.

There were the 38 clients who reported having been in alcohol and/or drug treatment, of these, all 38 clients, or 100 percent, had Substance Abuse Screen Scale scores at or above the 70th percentile. 100 percent of the clients who had alcohol or drug treatment scored in the Problem or Severe Problem risk range on the Substance Abuse Screen Scale. The VI Substance Abuse Screen Scale was extremely accurate in identifying clients with known alcohol or drugs problems.

VI Risk Assessment

The VI is a unique victim assessment test that includes measures of distress, morale and self-esteem. Client risk assessment for the seven VI scales is presented in Table 29. The actual percentages of clients placed in the four risk categories based on their scale scores are compared to the expected percentages. The following table presents these comparisons. The differences between obtained and expected are shown in parentheses. There were 188 clients included in this analysis.

Table 29. VI Client Risk Assessment (1999, N = 188)



Scale	Low Risk (39%)		Medium Risk (30%)		Problem Risk (20%)		Severe Problem (11%)	
Truthfulness	39.4	(0.4)	30.3	(0.3)	20.2	(0.2)	10.1	(0.9)
Distress	37.8	(1.2)	31.9	(1.9)	20.2	(0.2)	10.1	(0.9)
Morale	39.9	(0.9)	29.8	(0.2)	19.7	(0.3)	10.6	(0.4)
Self-esteem	37.8	(1.2)	30.8	(0.8)	20.8	(0.8)	10.6	(0.4)
Resistance	39.9	(0.9)	30.0	(0)	19.5	(0.5)	10.6	(0.4)
Substance Abuse	38.3	(0.7)	31.1	(1.1)	20.5	(0.5)	10.1	(0.9)
Stress Coping	38.8	(0.2)	30.3	(0.3)	20.3	(0.3)	10.6	(0.4)

As shown in the graph and table above, the obtained risk range percentages for all risk categories and all VI scales were within 1.9 percentage points of the predicted risk ranges. Of the 28 possibilities (7 scales x 4 risk ranges), there were 24 instances where the obtained risk range deviated from the predicted by less than one percentage point and only 1 instance where the risk range deviated by more than 1.2 percentage points. These results demonstrate the accuracy of the Victim Index.

For those clients who are identified as having problems (Problem and Severe Problem risk ranges or 31% of the clients), the obtained percentages were extremely accurate. The differences between obtained and expected percentages are as follows: Truthfulness (0.7), Distress (0.7), Morale (0.7), Self-esteem (0.4), Resistance (0.9), Substance Abuse (0.4) and Stress Coping Abilities (0.1). These results demonstrate that the VI scale scores accurately identify client risk.

Conclusion

The reliability of each VI scale is reported in terms of their coefficient alpha. All coefficient alphas are higher than .80. These results demonstrate the VI is a reliable assessment instrument or test. Database analyses demonstrated impressive discriminant validity and predictive validity. T-tests demonstrated that the Morale, Distress, Self-esteem and Stress Coping Abilities Scales accurately discriminate in expected directions between "problem" and "no problem" clients. VI accuracy was demonstrated. Attained VI scale scores were compared to predicted percentages for each scales (7 scales) risk range (low, medium, problem and high risk). Of the 28 possible comparisons (7 scales x 4 risk ranges) there were only 4 instances where the attained percentages deviated by more than 1 percentage point, i.e., 1.1%, 1.2% and 1.9%. These results are impressive and support the accuracy of the VI.

33. Addition of the Suicide Ideation Scale and Revision of the VI

In 2000 the Suicide Ideation Scale was added to the Victim Index. The Suicide Ideation Scale measures the probability of the respondent committing suicide. Any Suicide Ideation Scale score at or above the 70th percentile indicates that the respondent has had thoughts of harming himself or herself or at least contemplated the idea of suicide. Such elevated scores should be taken seriously. This scale was compiled from existing VI test items.

Database analysis of VI test items has led to revision of the VI scales. Scale items that did not significantly contribute to the reliability of the scale were dropped. The best items were retained. In most instances scale reliability increased. The test was shortened by 20 items. The VI is a relatively new test and this is the first time the test has been revised. Test data from the clients the test was designed for contributes to tailoring of the test to those clients. Specific client populations often respond differently to test items than other client or offender populations. This is one reason why tests should be designed for a specific population. A test that is appropriate for one population may not be appropriate for all populations. The "one test fits all" concept is not true. You must design tests for specific populations and scoring procedures must be standardized on the population the test was designed for. That is why VI research is ongoing. Revisions are necessary to tailor test items to specific populations and to accurately assess those specific populations.

This study (2000) was conducted to further examine the reliability, validity and accuracy of the Victim Index in a sample of 452 counseling clients. Reliability of the VI, validity and risk range percentile score accuracy was investigated in the present study.

Method and Results

The subjects in this study consisted of 452 adult counseling clients. There were 38 males and 414 females. Demographic composition of these participants is as follows: Age: 19 & under (16%); 20-29 (32%); 30-39 (30%); 40-49 (17%); 50-59 (3%) and 60 & over (1%). Ethnicity: Caucasian (68%); Black (5%); Hispanic (8%); Asian (1%); Native American (16%) and Other (2%). Education: Eighth grade or less (6%); Some H.S. (28%); H.S. graduate (44%); Some college (16%) and College graduate (6%). Marital Status: Single (39%); Married (27%); Divorced (16%); Separated (17%) and Widowed (1%).

Reliability of the VI

Reliability coefficient alphas for the VI are presented in the Table 30. These results support the statistical reliability of the VI The Suicide Scale is highly reliable.

Table 30. Reliability of the VI (2000, N = 452)
All coefficient alphas are significant at p<.001.

VI SCALES	Coefficient Alphas
Truthfulness Scale	.87
Distress Scale	.89
Morale Scale	.96
Self-esteem Scale	.94
Resistance Scale	.94
Suicide Scale	.93
Substance Abuse	.87
Stress Coping Abilities	.93

Validity of the VI

For a discussion of the two validity analyses refer to the previous study. The VI test item numbers used in this summary are taken from the new revised 127-item test booklet. The same test items in the old test booklet can be found in the previous study reported above. In the analysis presented in Table 31 VI test item #127: "I have serious family, marital or relationship problems." was used to define "Problem" clients and "No Problem" clients. There are 452 clients included in these analyses.

There were significant differences between Problem and No problem clients on the Truthfulness, Morale, Distress, Stress Coping Abilities, Self-Esteem and Suicide Ideation Scales. Problem clients scored higher than the No Problem clients on these scales with the exception of the Truthfulness Scale. The VI accurately differentiated between No Problem and Problem clients. **These t-test results support the discriminant validity of the Morale, Distress, Stress Coping Abilities, Self-Esteem and Suicide Ideation Scales.**

Table 31. Client status defined by self-admission of serious problems. (2000, N = 452)

VI Scale	No Problem Clients Mean (N=171)	Problem Clients Mean (N=281)	T-value	Level of significance
Truthfulness Scale	8.74	5.04	t = 7.63	p<.001
Resistance Scale	11.40	11.48	t = 0.10	n.s.
Morale Scale	17.79	41.62	t = 11.65	p<.001
Distress Scale	6.07	15.61	t = 10.40	p<.001
Stress Coping Abilities*	111.51	72.24	t = 10.88	p<.001
Self-Esteem Scale*	22.74	17.27	t = 4.03	p<.001
Substance Abuse	4.67	4.63	t = 0.06	n.s.
Suicide Ideation Scale	16.35	32.42	t = 11.41	p<.001

*Note: Stress Coping Abilities and Self-Esteem Scale scores are reversed in that higher scores mean better stress coping and higher self-esteem.

These results are similar to the previously reported study above. The Truthfulness Scale again showed that

No Problem clients scored higher than did Problem clients. There is a tendency for No Problem clients to try and fake good or minimize their problems more than do Problem clients. The Resistance Scale scores were nearly identical between these two client groups. This result is understandable because there should be no reason for clients to resist help. Also, Problem clients did not differ from No Problem clients on the Substance Abuse Screen Scale. The Suicide Ideation Scale indicates that Problem clients scored twice as high as No Problem clients. Suicide Ideation Scale scores at or above the 70th percentile should be taken seriously.

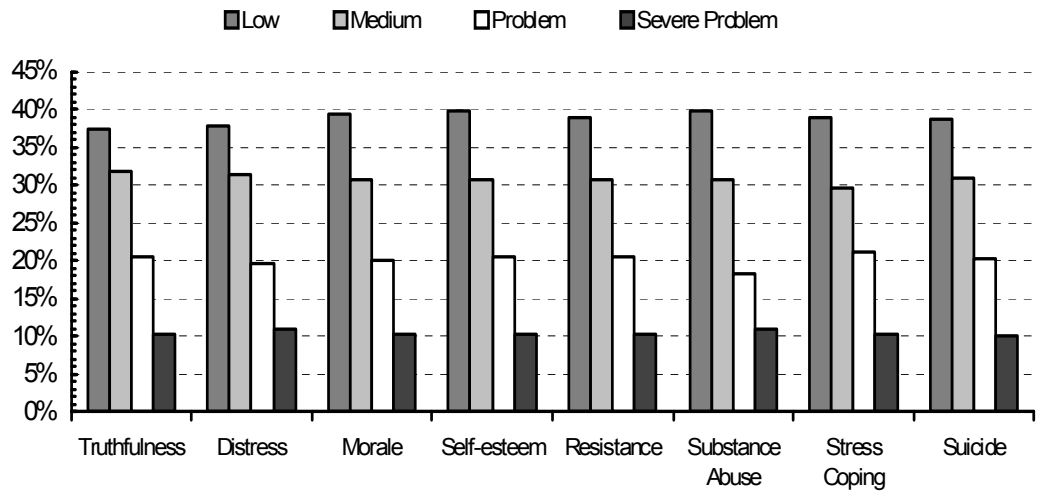
Predictive validity was again studied and replicated the previous research study. These analyses showed that the Substance Abuse Screen Scale accurately identified clients who have alcohol and drugs problems. Substance abuse treatment information was obtained from clients' answers to VI test items (#121 & #123) concerning alcohol and drug treatment.

There were the 81 clients who reported having been in alcohol and/or drug treatment, of these, all 81 clients, or 100 percent, had Substance Abuse Screen Scale scores at or above the 70th percentile. 100 percent of the clients who had alcohol or drug treatment scored in the Problem or Severe Problem risk range on the Substance Abuse Screen Scale. The VI Substance Abuse Screen Scale accurately identified clients with alcohol or drugs problems.

VI Risk Assessment

VI client risk assessment for the seven VI scales is presented in Table 32. Comparisons between the actual percentages of clients placed in the four risk categories with the expected percentages are presented. The differences between obtained and expected are shown in parentheses.

Table 32. VI Client Risk Assessment (2000, N = 452)



Scale	Low Risk (39%)		Medium Risk (30%)		Problem Risk (20%)		Severe Problem (11%)	
Truthfulness	37.5	(1.5)	31.8	(1.8)	20.5	(0.5)	10.2	(0.8)
Distress	37.9	(1.1)	31.4	(1.4)	19.7	(0.3)	11.0	(0.0)
Morale	39.4	(0.4)	30.8	(0.8)	20.1	(0.1)	10.2	(0.8)
Self-esteem	39.8	(0.8)	29.5	(0.5)	20.1	(0.1)	10.6	(0.4)
Resistance	39.0	(0.0)	30.7	(0.7)	20.5	(0.5)	10.2	(0.8)
Substance Abuse	39.8	(0.8)	30.8	(0.8)	18.4	(1.6)	11.0	(0.0)
Stress Coping	39.0	(0.0)	29.6	(0.4)	21.2	(1.2)	10.2	(0.8)
Suicide	38.7	(0.3)	31.0	(1.0)	20.2	(0.2)	10.1	(0.9)

The obtained risk range percentages for all risk categories and all VI scales were within 1.8 percentage points of the predicted risk ranges. Of the 32 possibilities (8 scales x 4 risk ranges), there were 26 instances where the obtained risk range deviated from the predicted by no more than one percentage point and only 6 instances where the risk range deviated by more than 1 percentage point. These results demonstrate that the Victim Index was very accurate in the assessment of these victim clients.

This study replicated the previous research study reported above. These results demonstrate that the VI is a reliable, valid and accurate victim assessment test. The Suicide Ideation Scale adds an important dimension to the VI and has sound statistical properties. The Suicide Ideation Scale has been shown to be reliable, valid and accurate.

These results support revisions that were made to the VI. Reliability, validity and accuracy of the revised VI are supported. Eliminating 20 test items from the original test has resulted in improvement of the VI. The test is shorter and can be completed by a respondent in less time. This is a desirable feature. A saving in time was achieved without compromising the quality of the test.

SUMMARY

In conclusion, this document is not intended as an exhaustive compilation of VI research. Yet, it does summarize many studies and statistics that support the reliability and validity of the VI. Based on this research, the VI presents an increasingly accurate picture of victims and the risk they represent. The VI provides a sound empirical foundation for responsible decision making.

Summarized research demonstrates that the Victim Index is a reliable, valid and accurate instrument for client assessment. It is reasonable to conclude that the Victim Index does what it purports to do. The Victim Index acquires a vast amount of relevant information for staff review prior to decision making. Empirically based scales are objective and accurate. Assessment has shifted from subjective opinions to objective accountability.

The Victim Index is not a personality test, nor is it a clinical diagnostic instrument. Yet, it is much more than just another assessment test. The Victim Index is designed specifically for screening victims for emotional/mental health problems, as well as alcohol and drug problems and referral to appropriate treatment services.

Victim Index (VI) Scales

VI Scales	WHAT THE SCALE MEASURES
Truthfulness	Truthfulness of person while taking the test
Distress	Sorrow, misery, pain and suffering
Morale	Person's mental state or outlook, enthusiasm
Substance Abuse Screen	Alcohol and/or drug use, abuse and proneness
Self-Esteem	Client's explicit valuing and appraisal of self
Resistance	Defensiveness, cooperativeness, resistance to help
Stress Coping Abilities	Person's ability to cope with stress
Suicide Ideation Scale	Respondent's probability of committing suicide

The Victim Index (VI) is an automated (computer scored) victim screening instrument or test. The VI study involving 608 female victims (1998, page 31) demonstrates the VI's reliability validity and accuracy.