Anger Management Profile

An Inventory of Scientific Findings

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TABLE OF CONTENTS

PREFACE

Anger Management Profile is designed to meet the needs of court screening and assessment. The copyrighted, Anger Management Profile database ensures continued research and development. The Anger Management Profile is a brief, easily administered, and automated (computer scored) test that is designed for adult, misdemeanor and felony courts, drug courts, and substance (alcohol and other drugs) abuse assessment. It includes true/false and multiple choice items and can be completed in 35 minutes. Anger Management Profile contains six, empirically-based scales: Truthfulness, Alcohol, Drug, Antisocial, Violence, and Stress Coping Abilities. Anger Management Profile has been researched on college students, outpatients, inpatients, job applicants, chemical dependency clients, probationers, and others.

The Anger Management Profile report explains clients' attained scores and makes specific intervention and treatment recommendations. It, also, presents Truth-Corrected scores, significant items, concise multiple choice items, and much more. The Anger Management Profile report is designed for adult court, probation, and parole use. In addition to treatment recommendations, this report presents specific recommendations. The recommendations for the Alcohol Scale and Drug Scale are compatible with recommendations of the American Society of Addiction Medicine (ASAM). It is a risk and needs, assessment instrument. This document summarizes much of the validity and reliability research that contributed to Anger Management Profile development. Anger Management Profile has demonstrated reliability, validity, and accuracy. It correlates impressively with both experienced staff judgment and other recognized tests.

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

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

INTRODUCTION

ANGER ISSUES

Increased public awareness of substance (alcohol and other drugs) abuse, as a nationwide health problem, has clarified the need for identification and treatment of these disorders. Rising health care costs have placed increasing responsibilities on all persons working with substance abusers. Workers in the field must now document and substantiate their intervention and treatment. Patients, clients, their families, probation departments, the courts, diversion programs, corrections programs, and funding agencies are now requiring substantiation and documentation of staff

decision making. Substance (alcohol and other drugs) abuse and dependency problems must now be measured in terms of degree of severity, with quantitative statements, substantiating intervention and treatment.

The Anger Management Profile assessment was developed to help meet the needs of court screening and assessment. The Anger Management Profile is designed for adult, chemical dependency and substance (alcohol and other drugs) abuse assessment. The Anger Management Profile test is, particularly, useful in drug courts, family courts, municipal courts, and county courts. It can be used to evaluate misdemeanor or felony charged defendants. Anger Management Profile reports are, particularly, useful at pre-sentence hearings. In these reports, quantitative information is obtained by empirically-based measures, (scales) which independently generate risk (percentile) scores. Scale development is based upon, nearly, 20 years of research. In addition, explanatory paragraphs describe attained scores and contain specific, score-related recommendations. Alcohol Scale and Drug Scale, risk-related recommendations are compatible with ASAM, recommended treatment levels. And, each scale is presented graphically in the Anger Management Profile report.

ANGER ISSUES
MEASURES OR SCALES

1. Truthfulness Scale
2. Alcohol Scale
3. Drug Scale
4. Anger Scale
5. Stress Coping Abilities Scale

Anger Management Profile is a brief, easily administered and interpreted, substance abuse screening or assessment instrument. Anger Management Profile represents the latest developments in psychometric techniques and computerized technology. Anger Management Profile can be administered on a computer (IBM-PC compatibles) screen or by using paper-pencil, test booklets. Regardless of how the Anger Management Profile is administered, all tests are scored and interpreted with a computer, which generates Anger Management Profile reports.

Anger Management Profile requires, approximately, 35 minutes for completion and is appropriate for high school ages through adulthood. Anger Management Profile is composed of True-False and multiple-choice items. It can be administered individually, or in groups. The language is direct, non-offensive, and uncomplicated. Automated scoring and interpretive procedures help insure objectivity and accuracy. Anger Management Profile is to be used in conjunction with a review of available records, a focused interview, and experienced staff judgment.

Anger Management Profile was designed to provide carefully, developed measures (called scales) of several behavioral patterns and traits of interest, to those working with substance abusers. The measures, (scales) chosen for inclusion in Anger Management Profile, further the understanding of the substance (alcohol and other drugs) abuser.

UNIQUE FEATURES

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

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

Anger Management Profile, scale percentile scores represent “degree of severity.” Degree of severity is defined for scales, other than the Alcohol and Drug scales, as follows: **Low Risk** (zero to 39th percentile), **Medium Risk** (40th to 69th percentile), **Problem Risk** (70th to 89th percentile), and **Severe Problem** or **Maximum Risk** (90th to 100th percentile).

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

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

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

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

DESCRIPTION OF EMPIRICALLY-BASED MEASURES OR SCALES

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

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

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

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

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

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

documented. The costs associated with alcohol-related problems are staggering.

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

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

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

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

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

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

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

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

How effectively individuals cope with stress determines whether or not stress is a significant factor in their lives. Two concepts, stress and coping abilities dominate the literature on stress. The Stress Coping Abilities Scale includes measures of both of these concepts in its Stress Quotient (SQ)

equation. The better an individual's coping skills, compared to their amount of experienced stress, the higher the SQ score. In contrast, if an individual is experiencing more stress than he or she can cope with, the lower the SQ score is. **In the Anger Management Profile, Stress Quotient (SQ) scores were inverted to conform to the established risk levels, ranging from low to high risk categories.**

Stress exacerbates other symptoms of emotional, attitudinal, interpersonal and substance abuse related problems. Frequency and magnitude of impaired stress coping abilities are important factors in understanding the substance abuser. **A Stress Coping Abilities Scale score, at or above the 90th percentile, is typically indicative of a diagnosable, mental health problem.** It is important to assess or measure the degree of severity of stress coping ability problems. This is done with the Stress Coping Abilities Scale.

Anger Scale: This scale measures the client's use of physical force to injure, damage, or destroy. It identifies individuals who are dangerous to themselves and others. Obtained scores are categorized in terms of percentiles and risk levels (i.e., Low Risk, Medium Risk, Problem Risk and Severe Problem [Maximum] Risk).

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

Anger Management Profile test items are personal. The straightforward nature of any self-report questionnaire may appear, to some people, as intrusive. Although perhaps discomforting to some, such criticism is directly related to the Anger Management Profile's strength, in assessing substance abuse and related problems, objectively. Information deemed personal, by some, is necessary in an empirical (as opposed to rational) approach to assessment. A similar type of criticism (intrusiveness) has been leveled at the MMPI in the past.

RESEARCH STUDIES

Validation studies were conducted with established Minnesota Multiphasic Personality Inventory (MMPI) scales, as well as Polygraph examinations, and other reports. Reliability and validity studies have been conducted on substance abuse inpatients, outpatients, college students, job applicants, defendants, diversion program attendees, probationers, inmates, and counseling patients.

This document first, presents the earlier studies that investigated the Stress Coping Abilities Scale. The research represented in this document is reported chronologically -- as it occurred. Chronological presentation enables the reader to follow the evolution of the Anger Management Profile into a state-of-the-art, assessment instrument. More recent studies (toward the end of this document) are most representative of current, Anger Management Profile statistics.

Anger Management Profile, risk level classification categories are presented below. These percentages are based on Anger Management Profile respondent scale scores. This permits

comparison of predicted percentages with obtained percentages, for each risk range category.

STRESS QUOTIENT

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

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

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

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

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

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

reliability of the SQ was investigated in ten subjects, (5 male and 5 female) randomly chosen from this study. A split-half, correlation analysis was conducted on the SQ items. The product-moment, correlation coefficient (r) was .85, significant at the $p < .01$ level. This correlation indicates that the SQ or Stress Coping Abilities Scale is a reliable measure. These results support the Stress Coping Abilities Scale, as a reliable and valid measure.

Validation Study 3: In this study (1981) the relationship between the SQ Scale and the Holmes Rahe, Social Readjustment Rating Scale (SRRS) was investigated. The SRRS, which is comprised of a self-rating of stressful, life events, has been shown to be a valid measure of stress. Three correlation analyses were done. SRRS scores were correlated with SQ scores, and separately, with two components of the SQ scale: Coping Skill (CS) scores and Stress (S) scores. It was hypothesized that the SQ and SRRS correlation would be negative, since subjects with lower SQ scores would be more likely to either encounter less, stressful life events or experience less stress in their lives. It was, also, predicted that subjects with a higher CS would be less likely to encounter stressful, life events; hence, a negative correlation was hypothesized. A positive correlation was predicted between S and SRRS, since subjects experiencing more frequent, stressful life events would reflect more, experienced stress. The participants in this study consisted of 30, outpatient psychotherapy patients. There were 14 males and 16 females. The average age was 35. The SQ and the SRRS were administered in counterbalanced order. The results showed there was a significant, positive correlation (product-moment correlation coefficient) between SQ and SRRS ($r = .4006$, $p<.01$). The correlation results between CS and SRRS were 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**.

ANGER ISSUES RESEARCH

The Anger Management Profile is designed for court use. Anger Management Profile has a long history of research and development, much of which is contained in the following summary. Anger Management Profile research is reported in a chronological format, reporting studies as they occurred. This gives the reader the opportunity to see how the Anger Management Profile 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 document.

10. Validation of the Truthfulness Scale

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

The Truthfulness Scale identifies respondents who were self-protective, recalcitrant, and guarded, as well as those who minimized or, even, concealed information, while completing the test. Truthfulness Scale items are designed to detect respondents who try to fake good or put themselves into a favorable light. These scale items are statements about oneself that most people would agree to. The following statement is an example of a Truthfulness Scale item, “Sometimes I worry about what others think or say about me.”

This preliminary study (1985) used the 21, Truthfulness Scale items in the Anger Management Profile, 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 who were 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 Anger Management Profile Truthfulness Scale, was administered to the subjects and the Truthfulness Scale was embedded in the test, as one of the six scales. Truthfulness Scale scores were made up of the number of deviant answers given to the 21, Truthfulness Scale items.

Results

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

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

11. Validation of Four Anger Management Profile 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 (1985), the four, Anger Management Profile scales (Truthfulness, Alcohol, Drug, Stress Coping Abilities) were validated with comparable scales on the Minnesota Multiphasic Personality Inventory (MMPI). The MMPI was selected for this validity study, because it is the most researched, validated, and widely used, objective, personality test in the United States. The Anger Management Profile scales were validated with MMPI scales, as follows. The Truthfulness Scale was validated with the L Scale. The Alcohol Scale was validated with the MacAndrew Scale. The Drug Scale was validated with the MacAndrew and Psychopathic Deviant scales. 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 were administered both, the Anger Management Profile scales and the MMPI. Tests were counterbalanced for order effects -- half were given the Anger Management Profile scales, first, and half, the MMPI, first. (1985)

Results and Discussion

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

Table 1. Product-moment correlations between MMPI scales and Anger Management Profile scales (N=100, 1985)

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

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

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

The **Alcohol Scale** correlates, significantly, with all, represented, MMPI scales. This is consistent

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

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

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

12. Relationships Between Selected Anger Management Profile Scales and Polygraph Examination

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

Three, Anger Management Profile scales were chosen for this study (1985); Truthfulness Scale, Alcohol Scale, and Drug Scale. The Truthfulness Scale was chosen because it is used in the Anger Management Profile to measure the truthfulness or honesty of the respondent, while completing the Anger Management Profile. The Alcohol and Drug scales are well suited for comparison with the polygraph exam, because of the situation-specific nature of the scales. Alcohol and Drug scale items are direct and relate, specifically, to alcohol and drug use. The comparison with the Truthfulness Scale is less direct, because of the subtle nature of the Truthfulness Scale items, as used in the Anger Management Profile. The Truthfulness Scale is affected by the respondent's attitude, emotional stability, and tendencies to fake good. It was expected that the Alcohol and Drug scales would be highly correlated with the polygraph results, and the Truthfulness Scale would show a somewhat less, but nonetheless significant, correlation.

Method

One hundred and eighty-nine (189), job applicants were administered both, the Anger Management Profile scales and the Polygraph examination (1985). Tests were given in a counterbalanced order; half of the applicants were given the Anger Management Profile scales, first, and the other half of the applicants were administered the polygraph, first. The subjects were administered the Anger Management Profile 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 Anger Management Profile scales, indicated there was a significant, positive correlation between the Truthfulness Scale and Polygraph exam ($r = 0.23$, $p<.001$). Similarly, significant, positive relationships were observed between the Polygraph exam and the Alcohol Scale ($r = 0.54$, $p<.001$) and the Drug Scale ($r = 0.56$, $p<.001$).

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

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

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

13. Validation of Anger Management Profile Scales in a Sample of Substance Abuse Inpatients

The Anger Management Profile is an adult, chemical dependency and substance (alcohol and other drugs) abuse, assessment instrument. It is designed for use in court-related settings, diversion programs, and probation departments. The Anger Management Profile is a specific test, designed for specific, defendant populations. The present study (1987) was conducted to validate the Anger Management Profile scales in a sample of substance abuse inpatients, in a chemical dependency facility.

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

Method

The subjects used in the study (1987) were 212, substance (alcohol and other drugs) abuse inpatients in chemical dependency facilities. The Anger Management Profile and MMPI scales were administered in counterbalanced order.

Results and Discussion

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

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

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

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

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

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

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

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

The Anger Management Profile, Alcohol and Drug scales are direct measures of alcohol and drug use or abuse, respectively; whereas, the MacAndrew Scale was developed from discriminant analysis and does not include a truthfulness scale. The MacAndrew Scale items do not relate, specifically, to alcohol and drugs. Hence, the correlations between the MacAndrew Scale and the Alcohol and Drug scales could be affected by the lack of a truthfulness measure, which is a deficiency of the MacAndrew Scale. However, the correlation coefficients were still significant.

Where MMPI scales are closely related (by definition) to Anger Management Profile scales, the correlation coefficients were highly significant. For example, the Anger Management Profile 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 the Stress Coping Abilities Scale and MMPI Tension/Worry Scale was r = -.66. This study supports the validity of the Anger Management Profile.

14. Validation of AMP Scales Using DRI Scales as the Criterion Measures

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

the Anger Management Profile and the Driver Risk Inventory (DRI), 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 Anger Management Profile is designed for adult, chemical (alcohol and other drugs) dependency assessment. It contains six measures or scales: Truthfulness, Alcohol, Drug, Antisocial, Violence, and Stress Coping Abilities. Four of these six, Anger Management Profile 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, Alcohol, and Drug are independent and differ in the Anger Management Profile and DRI, they were designed to measure similar behaviors or traits. Thus, although essentially composed of different, test questions in the Anger Management Profile and DRI test booklets, these comparable measures or scales do have similarity. The Stress Coping Abilities Scale, in both Anger Management Profile and DRI, contains the same, 30, test items.

Method

The Anger Management Profile and DRI scales 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 Anger Management Profile and DRI scales. Although all inmates volunteered to participate in this study, inmate motivation varied.

Results and Discussion

The results of this study are presented in Table 3. The results demonstrate, highly, significant relationships between the analogues Anger Management Profile and DRI scales. The DRI has been shown to be a valid measure of substance (alcohol and drug) abuse in DUI/DWI offenders; hence, these correlation results support the validity of the Anger Management Profile as a valid measure of substance abuse.

Table 3. Product-moment correlations 1988 study of DWI inmates (N = 154, 1988).
All product-moment correlations are significant at p<.001.

DRI versus Anger Management Profile Scales	Agreement Coefficients
Truthfulness Scale	.6405
Alcohol Scale	.3483
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 were identical scales consisting of the same 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.

These results are important for another reason. This study extends the Anger Management Profile, normative (standardization sample) population to include inmates and incarcerated individuals who are serving their sentences in maximum security facilities. The validity of the Anger Management Profile has been demonstrated on a sample of incarcerated, substance (alcohol and other drugs) abuse offenders.

15. Validation of AMP Scales in a Sample of Vocational Rehabilitation Clients

The Anger Management Profile was investigated in a sample of individuals who are not, generally, associated with substance abuse, but who have other handicaps. 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/or maintaining employment.

Selected scales in the Minnesota Multiphasic Personality Inventory (MMPI) were used as criterion measures for the different, Anger Management Profile scales. Comparisons to previous validating studies, which used substance (alcohol and other drugs) abuse subjects, will be made to determine the applicability of the Anger Management Profile to various, adult samples.

Method

The subjects used in the present study consisted of 74, Vocational Rehabilitation clients. The Anger Management Profile and MMPI scales were administered in counterbalanced order. Product-moment correlations were calculated between Anger Management Profile scales and selected criterion, MMPI scales. The Truthfulness Scale was validated with the MMPI L Scale, F Scale, and K Scale. The Alcohol Scale was validated with the MMPI MacAndrew Scale (MAC) and Psychopathic Deviate (PD). The Drug Scale was validated the MMPI MacAndrew Scale, Psychopathic Deviate. 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 4. For clarity, Anger Management Profile 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 Anger Management Profile 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 Anger Management Profile invalidates other, Anger Management Profile scale scores.

Table 4. Product-moment correlations.
Vocational Rehabilitation Clients (N=74, 1991)

	Anger Management Profile SCALES			
MMPI SCALES	**Truthfulness**	**Alcohol**	**Drug**	**Stress Coping**
L	.493**	.001	-.141	-.105
F	-.344*	.435**	.334*	.440**
K	.344*	-.257	-.079	-.308*
PD	-.109	.454**	.292*	.568**
MAC	-.177	.303*	.145	.168
TSC-VII	.480**	.295*	.189	.441**
PT	-.135	.273*	.244	.501**
MAS	-.245	.396**	.240	.574**

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

The **Alcohol 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 **Drug Scale** was, significantly, correlated with the PD Scale (Psychopathic Deviate, $p<.01$). The Anger Management Profile, Drug Scale did not correlate, significantly, with the MMPI MacAndrew Scale. Substance (alcohol and other drugs) abusers have a close identity with their substance of choice. Without independent scales, on the MacAndrew Scale for alcohol and drugs, many substance abusers would remain undetected. The MacAndrew Scale does not have its own truthfulness scale. The low correlation between Anger Management Profile, Drug Scale and MacAndrew Scale may have been due to lying or faking on the MacAndrew Scale.

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 Anger

Management Profile and MMPI scales, in that Anger Management Profile scales are, significantly, correlated in expected directions with criterion MMPI scales. These findings support the validity of the Anger Management Profile.

Comparisons between the present study and previous research that tested substance abusers (inpatient clients at chemical dependency facilities) shows some interesting results, which may reflect sample differences. As stated above, there was a somewhat, lower correlation between the Truthfulness Scale and L Scale. There was a higher correlation between the Drug Scale and MacAndrew Scale in the substance abuser study, and a lower correlation between the Alcohol Scale and Psychopathic Deviate Scale.

16. Validation of AMP Scales in a Sample of Adult Probationers

The present study (1992) was conducted to validate the Anger Management Profile with adult probation clients, with criterion measures from selected, Minnesota Multiphasic Personality Inventory (MMPI) scales. This study was done to provide validation of Anger Management Profile scales, 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 (1992). 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 Anger Management Profile and MMPI scales were administered in counterbalanced order. Product-moment correlations were calculated between Anger Management Profile 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 Alcohol Scale was validated with the MMPI MacAndrew Scale and PD Scale. The Drug 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), **TSC-VII** (Tension).

Results and Discussion

The results of this study (1992, N = 171) are summarized in Table 5.

Table 5. Product-moment correlations.
Adult Probation Clients (N=171, 1992)

SCALES	Truthfulness	Alcohol	Drug	Stress Coping
L	.511**	.022	-.186*	-.065
F	-.293**	.379**	.269*	.462**
K	.458**	-.201*	-.151	- .319**
PD	-.241**	.312**	.190*	.491**
PT	-.279**	.202*	.115	.470**
MAS	-.394**	.288**	.151	.536**
MAC	.005	.051	.090	.076
TSC-VII	-.431**	.222*	.168	.446**

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

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 Anger Management Profile, Truthfulness Scale. This supports the validity of the Anger Management Profile, Truthfulness Scale.

The **Alcohol Scale** correlates, significantly, with the MMPI PD Scale. The correlation with the MAC Scale was not significant. Similarly, The **Drug Scale** correlates, significantly, with the MMPI PD Scale, but not with the MAC Scale. These results support the validity of the Anger Management Profile, Alcohol Scale and Drug Scale, while raising questions concerning the MacAndrew's (MAC) lack of a Truthfulness 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 Anger Management Profile, Stress Coping Abilities Scale.

This study supports the validity of Anger Management Profile scales in a sample of adult probationers. Anger Management Profile 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. And, the MacAndrew Scale lacks a Truthfulness Scale. The Anger Management Profile, Alcohol and Drug scales correlate with the PD Scale, which has been shown to be a valid measure of substance abusers and substance- abusing, adult probationers.

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

17. Validation of the Anger Management Profile Anger Scale with a Polygraph Examination
The Anger Scale measures physical force to injure, damage, or destroy. The Anger Scale identifies

people that are dangerous to themselves and others. This study (1994) was conducted to evaluate the validity of the Anger Scale in the Anger Management Profile.

Method and Results

One hundred and seven (107), halfway house, male resident volunteers participated in the study (1994). The Anger Scale and a Polygraph "violence" examination were, alternately, administered. The Product-moment correlation coefficient of $r = .25$ was significant at $p<.01$. This means the Anger Management Profile, Anger Scale and polygraph examination on violence were in agreement, most of the time. This significant correlation was in the predicted direction. This study supports the validity of the Anger Scale.

18. Validation of the Antisocial and Anger Scales

The present study (1994) utilized selected, MMPI scales as criterion measures to validate the Antisocial Scale and Anger Scale. Ninety-seven (97), male, chemical dependency outpatients were, alternately, administered the MMPI and the Antisocial and Anger Scales. The results demonstrated that the Antisocial Scale correlated, significantly, in the expected direction, with the following, MMPI scales: Psychopathic Deviant (PD, $r = 0.48$), Social Alienation (SCIA, $r = 0.46$), and Social Maladjustment (SOC, $r = 0.51$). The Anger Scale correlated, significantly, in the predicted direction, with the following, MMPI scales: Hypomania (MA, $r = 0.49$) and Manifest Hostility (HOS, $r = 0.44$). All correlations were significant at $p<.01$. These results support the validity of the Antisocial and Anger Scales.

19. Validation of the Substance Abuse/Dependency Scale and Other Anger Management Profile Scales

The Substance Abuse/Dependency Scale incorporates the seven, DSM-IV criteria for substance dependency classification and the four, DSM-IV criteria for substance abuse classification. Also, equivalent items were added to the Alcohol and Drug scales. When a person admits to three or more of the seven DSM-IV criteria for substance dependence, they are classified as dependent. Similarly, when a person admits to one or more of the four, DSM-IV criteria for substance abuse, they are classified as abuse. A study (1997) conducted by Dr. Fred Marsteller, of Emory University and Dr. Donald Davignon, of Behavior Data Systems, entitled "A Validation Study of the DRI-II in a Large Sample of DUI Offenders," investigated the validity of this Substance Abuse/Dependency Scale, along with the predictive accuracy of the Alcohol and Drug scales, in identifying offenders classified as dependent or abuse.

The Anger Management Profile Truthfulness Scale, Alcohol Scale, and Drug Scale, as well as the Substance Dependency/Abuse Scale, were validated using criterion measures selected for this study. The following tests were done: The Truthfulness Scale was validated with the MMPI-2 L Scale. The Alcohol Scale was validated with the MMPI-2 MacAndrew Scale. The Drug Scale was validated with the Drug Abuse Screening Test (DAST). The Substance Abuse/Dependency Scale was validated with a DSM-IV, substance use dependency scale, devised for this study.

Method

For concurrent validity comparisons, the following tests were incorporated into a 159-item,

"criterion test": MMPI-2 L Scale, MacAndrew, Drug Abuse Screening Test (DAST), MMPI F Scale, and the DSM-IV substance dependency items. All, criterion test items were written in a True/False format. The MMPI-2 F Scale was included in the criterion test, because it indicates a haphazard approach to testing, or a wish to put self in a bad light. The Anger Management Profile scales and the criterion test were administered in counterbalanced order, to all participants, as part of their normal, DUI screening procedure.

There were 1,014 DUI offenders included in the present study (1997). There were 811 males (80%) and 203 females (20%). The offenders are, broadly, defined as Caucasian (83.3%), between the ages of 21 and 40 (65.7%), High School graduate or better (75.2%), and single (49.4%).

Results and Discussion

Product-moment, correlation coefficients are presented in Table 6. Intraclass correlations were, also computed, but the correlations were identical to the product-moment correlations, to the second decimal place, when the product-moment correlations were positive. And, the intraclass correlation is undefined, when the product-moment correlations were negative.

Table 6. Product-moment correlations. DUI Offenders (N = 1,014, 1997)
All product-moment correlations shown are significant at p<.001.

AMP Scales	MMPI-2 L	MacAndrew	DAST	DSM-IV
Truthfulness	.668	-.371	-.289	-.324
Alcohol	-.154	.291	.508	.625
Drug	n.s.	.152	.618	.276
Abuse/Dependency	-.251	.352	.371	.964

The correlation between the **Truthfulness Scale** and the MMPI-2 L Scale is highly significant ($r = .668$, $p<.001$) and in the expected, positive direction. It is rare to find correlation coefficients in validation testing above .60. Usually, they are much lower. These results support the validity of the Anger Management Profile, Truthfulness Scale.

The **Alcohol Scale** correlates, significantly, with the MacAndrew Scale ($r = .291$, $p<.001$), in the predicted direction. The MacAndrew Alcoholism Scale (MacAndrew, 1965) was derived from the MMPI, as a measure of alcoholism. The MacAndrew Scale used in this study is the revised version, applicable to the current version of the MMPI and the MMPI-2. MacAndrew Scale items were selected because, as a group, they, successfully, discriminated alcoholics from non-alcoholics, in validation samples. The MacAndrew Scale items have little, face validity, with respect to alcohol use, with only, one item referring directly to alcohol. The opinion, of researchers using the MacAndrew Scale, is that it reflects both, a) behaviors and symptoms, which are common among alcoholics. The Alcohol Scale measures alcohol use and identifies alcohol-related problems. The Alcohol Scale items, specifically, refer to alcohol use and alcohol-related symptoms. The correlation between the Alcohol Scale and the MacAndrew Scale was significant and in the positive direction.

The relatively, small, correlation coefficient, with the MacAndrew Scale, may reflect several differences between the scales. The MacAndrew Scale was developed to detect alcoholism, per se. Its items are, generally, not directly related to alcohol use and alcohol-related problems, but refer, instead, to secondary symptoms and characteristics, which have successfully discriminated alcoholics from non-alcoholics, in clinical validation samples. The MacAndrew Scale was, also,

devised to identify alcoholism among White males (Greene, 1991) and females, and ethnic minorities have been shown to respond differently, from White males.

The Alcohol Scale is very direct in asking about alcohol use and alcohol-use, related symptoms. It is, also, designed to assess alcohol-related problems across a broad range of severity, not just differentiate alcoholics from non-alcoholics. Furthermore, the Alcohol Scale incorporates truth-correction, whereas the MacAndrew Scale does not.

The **Drug Scale** correlates, significantly, with the DAST ($r = .618$, $p<.001$) in the predicted direction. The DAST is a drug use questionnaire that, directly, refers to drug use and abuse. It was designed to screen clinical populations for significant, drug abuse problems. The Drug Scale measures drug (marijuana, crack, cocaine, barbiturates, amphetamines, heroin, etc.) use and abuse problems. The Drug Scale provides assessment across the full spectrum, while the DAST focuses on major problems or extreme cases. These results support the validity of the Drug Scale. The Drug Scale, accurately, measures illicit drug use and abuse. Again, the truth-corrected scores of the Drug Scale may reduce the correlation with the DAST, which is not truth-corrected.

There was a high, positive correlation between the **Substance Abuse/Dependency Scale** and the DSM-IV Criterion items ($r = .964$, $p<.001$). This, high correlation reflects their very, strong overlap. This result supports the validity of the Substance Abuse/Dependency Scale. This finding suggests that clients answer DSM-IV substance dependency, criteria items in the same way they answer Substance Abuse/Dependency Scale items (and their equivalents).

These results support the validity of the Anger Management Profile scales used in this study. There were very strong, positive correlations between the Anger Management Profile scales and the criterion scales used to test the different, Anger Management Profile scales.

To assess the ability of the different scales used in this study to distinguish among subjects rated as “no classification,” “substance abuse,” or “substance dependent,” based on the criterion DSM-IV scale, ANOVAs comparing the mean scores for each scale, among the classification groups were computed. The question addressed, here, is whether the different scales used, in this study, can discriminate among the classification groups. Mean scale scores, for each classification group, is presented in Table 7.

The ANOVA comparison, among the “no classification,” “abuse,” and “dependence” groups, found that for each scale, the classification groups were very, significantly different (all $p’s<.001$). It is noteworthy that, for the Alcohol Scale, the differences among the “classification” groups are larger than those for the MacAndrew Scale. This finding supports the conclusion that the Alcohol Scale, accurately, discriminates between “classification” categories and does so better than the MacAndrew Scale.

Table 7. Mean scale scores for each classification group. Drug court clients (N=100, 1997). ANOVA comparisons between groups are significantly different at p<.001.

	no classification	abuse	dependent
Truthfulness Scale	12.7	9.1	8.1
MMPI-2 L Scale	7.3	5.7	5.0
Alcohol Scale	9.4	12.5	28.7
MacAndrew Scale	20.2	21.7	24.0
Drug Scale	4.1	3.8	8.5
DAST	3.4	4.1	7.2

Each of the Anger Management Profile scales, (Truthfulness, Alcohol, Drug, and Substance Dependency/Abuse) correlate highly significantly, with their respective, criterion tests. These large, correlation coefficients support the validity of Anger Management Profile scales. ANOVA results support the discriminant validity of the Anger Management Profile scales.

Greene, R.L. (1991). The MMPI-2/MMPI: An Interpretive Manual. Boston: Allyn and Bacon.

20. Reliability Study of Anger Management Profile Scales in Two Samples of Probationers

This study (1997) was conducted to test the reliability of the Anger Management Profile scales, in two samples of probationers. Within-test reliability measures to what extent a test, with multiple scales, measuring different factors, measures each factor, independent of the other factors (scales) in the test. It also measures to what extent items in each scale, consistently, measure the particular trait (or factor) that scale was designed to measure. Within-test reliability measures are referred to as inter-item reliability. The most common method of reporting within-test (scale) inter-item reliability is with coefficient alpha.

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

Method and Results

There were two samples of adult probationers included in this study (1997). **The subjects in Group 1 consisted of 850, adult probationers.** There were 663 males (78%) and 187 females (22%). Demographic composition of these probationers is as follows: Age: 19 & under (21%); 20-29 (43%); 30-39 (23%); 40-49 (9%); 50-59 (2%); and 60 & over (1%). Ethnicity: Caucasian (74%); Black (11%); Hispanic (10%); Asian (1%); Native American (3%); and Other (1%). Education: Eighth grade or less (7%); Some H.S. (30%); H.S. graduate (47%); Some college (11%); and College graduate (4%). Marital Status: Single (61%); Married (19%); Divorced (13%); Separated (5%); and Widowed (1%).

Group 2 consisted of 2,331, adult probationers. There were 1,847 males (79%) and 484 females (21%). Demographic composition of these probationers is as follows: Age: 19 & under (15%); 20-29 (40%); 30-39 (28%); 40-49 (13%); 50-59 (3%); and 60 & over (1%). Ethnicity: Caucasian (58%); Black (25%); Hispanic (15%); Asian (1%); Native American (1%); and Other (1%). Education: Eighth grade or less (9%); Some H.S. (31%); H.S. graduate (44%); Some college (9%);

and College graduate (3%). Marital Status: Single (55%); Married (25%); Divorced (12%); Separated (5%); and Widowed (1%).

Reliability coefficient alphas for the two groups (total N = 3,181) are presented in Table 8.

Table 8. Reliability coefficient alphas (N = 3,181, 1997). All coefficient alphas are significant at p<.001.

AMP SCALES	1 Probationers N = 850	2 Probationers N = 2,331
Truthfulness Scale	.87	.88
Alcohol Scale	.95	.95
Drug Scale	.93	.92
Antisocial Scale	.81	.80
Anger Scale	.87	.85
Stress Coping Abilities	.93	.92

The results of the study support the reliability of the Anger Management Profile scales. All coefficient alphas are significant at p<.001. All, scale reliability coefficients attained very, high levels. These results show that the Anger Management Profile is a reliable, risk assessment instrument.

21. Validity, Reliability, and Scale Risk Range Accuracy Study of Anger Management Profile in Drug Court Clients

Anger Management Profile is designed for court use. Anger Management Profile measures substance (alcohol and drugs) use and abuse. The present study (1998) was conducted to analyze the reliability of the Anger Management Profile in a drug court sample. The study also involved analysis of risk assessment, and summary of client, self-perceptions of alcohol and drug problems.

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

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

treatment.

Statistical decision-making is closely related to predictive validity of a test. The quality of statistical decision-making and test validity are both assessed by the accuracy, with which the test (Alcohol Scale) classifies "known" cases (treatment). In the present study, predicive validity was evaluated in the Anger Management Profile by using contingency tables defined by scale scores, and either, treatment or number of arrests. Treatment was used with the Alcohol Scale and Drug Scale, and violent crime or assault arrests were used with the Anger Scale.

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

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

Method and Results

The Anger Management Profile was administered to 100, court clients, (1998) as part of routine evaluation in a municipal, substance abuse, screening program. There were 86 (86%) males and 14 (14%) females. Demographic composition of the subjects was as follows: Age in years: 19 & under (15%); 20-29 (38%); 30-39 (28%); 40-49 (12%); 50-59 (5%); 60 & over (1%). Ethnicity: Caucasian (10.5%); Black (4.2%); Hispanic (78.9%); Native American (5.3%); and Other (1.1%). Education: 8th grade or less (9%); Some High School (25%); H.S. graduate (52%); Some college (2%); College graduate (7%). Marital Status: Single (76.1%); Married (18.2%); Divorced (3.4%); Separated (2.3%).

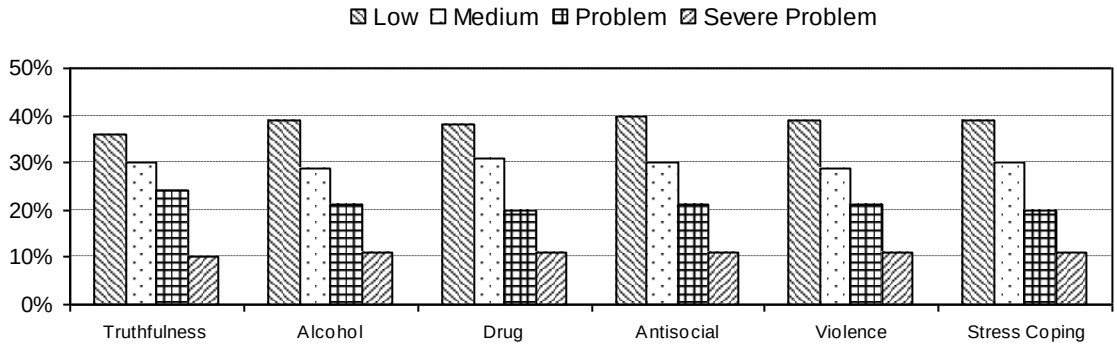
Reliability coefficient alphas are presented in Table 9.

Table 9. Reliability coefficient alphas (N = 100, 1998).
All coefficient alphas are significant at p<.001.

Anger Management Profile SCALE	**Drug court clients N = 100**
Truthfulness Scale	.89
Alcohol Scale	.93
Drug Scale	.89
Antisocial Scale	.81
Anger Scale	.85
Stress Coping Abilities	.93

These results support the reliability of the Anger Management Profile. All reliability coefficient alphas were significant at p<.001. The drug court clients used in the present study reveal similar reliability statistics that have been found in probationers used in other studies. The Anger Management Profile is a, statistically reliable, screening instrument for assessment of court and substance (alcohol and drugs) abuse defendants.
Risk analysis is presented in Table 10.

Table 10. Risk Range Percentile Scores for Drug Court Clients (N = 100, 1998).



Risk Range	Truthfulness	Alcohol	Drug	Antisocial	Violence	Stress Coping	**Predicted**
Low	36.0	39.0	38.0	40.0	39.0	39.0	**39%**
Medium	30.0	29.0	31.0	30.0	29.0	30.0	**30%**
Problem	24.0	21.0	20.0	19.0	21.0	20.0	**20%**
Maximum	10.0	11.0	11.0	11.0	11.0	11.0	**11%**

These results show that obtained, risk range percentile scores, closely, approximated the predicted, risk range percentile scores for each of the six, Anger Management Profile scales, presented in Table 10, for drug court client sample included in the study. These results indicate that the Anger Management Profile is a very accurate, risk assessment instrument for drug court use.

The results, of the comparisons between obtained risk percentages and predicted percentages, show that all, obtained, scale risk range percentile scores were within 4.0 percent of predicted. The largest difference between obtained and predicted risk range percentages occurred on the Truthfulness Scale. All other scales were within one percentage point of predicted. This is very accurate, defendant risk assessment.

The t-test, comparisons between first offenders and multiple offenders, for each scale, is presented in Tables 11 through 13. There were 100, court defendants used in this analysis.

Table 11. T-test comparisons between first offenders and multiple offenders.
Offender status defined by total number of arrests. (N = 100, 1998)

Anger Management Profile Scale	First Offenders Mean (N=20)	Multiple Offenders Mean (N=80)	T-value	Level of significance
Truthfulness Scale	12.10	12.08	t = 0.02	n.s.
Antisocial Scale	12.10	22.88	t = 6.29	p<.001
Anger Scale	9.6	18.39	t = 4.36	p<.001
Stress Coping Abilities	142.85	127.29	t = 1.18	n.s.

Table 12. T-test comparison of Alcohol Scale between first offenders and multiple offenders.
Offender status defined by number of alcohol arrests.

Anger Management Profile Scale	First Offenders Mean (N=45)	Multiple Offenders Mean (N=55)	T-value	Level of significance
Alcohol Scale	14.27	21.29	t = 2.56	p=.012

Table 13. T-test comparison of Drug Scale between first offenders and multiple offenders.
Offender status defined by number of drug arrests.

Anger Management Profile Scale	First Offenders Mean (N=96)	Multiple Offenders Mean (N=4)	T-value	Level of significance
Drug Scale	9.97	24.5	t = 2.74	p<.007

These t-test results support the discriminant validity of the Anger Management Profile. All t-test comparisons between first offenders and multiple offenders were significant on the Alcohol, Drug, Antisocial, and Anger Scales. The Truthfulness Scale showed that first offenders and multiple offenders had nearly, identical, scale scores. This suggests that first and multiple offenders are, equally, guarded in court-related settings. The mean scale score on the Stress Coping Abilities Scale indicated that first offenders had higher scores, on average, (better stress coping abilities) than multiple offenders; however, the difference between first and multiple offenders was not significant. The Stress Coping Abilities Scale is non-intrusive and non-threatening. Consequently, respondents responded in a non-defensive manner.

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

of the Alcohol Scale, Drug Scale, Antisocial Scale, and Anger Scale.

The test of predictive validity for the Alcohol Scale is presented in Table 14. Defendants who scored between the 40th and 69th percentile are not included in the table, because the table distinguishes between problem and no problem behavior. No problem is defined as an Alcohol Scale score at or below the 39th percentile; whereas, alcohol-related, problematic behavior is defined as an Alcohol Scale score in the 70th or above percentile range. Alcohol treatment information was obtained from defendants responses to Anger Management Profile test items.

Table 14. Predictive validity for the Alcohol Scale using scale scores and alcohol treatment.

	Alcohol Treatment		
Alcohol Scale	No treatment	One or more treatments	Number in each category
Low Risk (zero to 39th percentile)	31 (.82)	8 (.24)	39
Problem or Severe Problem Risk (70 to 100th percentile)	7 (.18)	25 (.76)	32
	38	33	N = 71

These results show that for the 33 defendants, who reported having had alcohol treatment, 25 defendants, or 76 percent had Alcohol Scale scores at or above the 70th percentile. Similarly, of the 38 defendants who did not have alcohol treatment, 31 defendants or 82 percent had Alcohol Scale scores in the Low Risk or no problem range. This percentage is reasonable, because probationers could have a drinking problem without having been in treatment. Combining these results gives an overall accuracy of the Alcohol Scale of 79 percent. This is very accurate considering that a highly accepted, diagnostic procedure, the mammogram, is about 70 percent accurate. These results show there is a very strong, positive correlation between Alcohol Scale scores and alcohol treatment.

The predictive validity test of the Drug Scale was done in the same way, using drug treatment as the criterion. Of the 26 defendants who reported having had drug treatment, 21 or 81 percent had Drug Scale scores in the 70th percentile, or higher (Problem Risk and above). Of the 43 defendants who did not have treatment, 33 (77%) had Drug Scale scores in the Low Risk (no problem) range. The overall accuracy of the Drug Scale, in predicting drug treatment, was 78 percent. These results show there is a very strong, positive correlation between the Drug Scale and drug treatment.

For the Anger Scale, 79 percent of the defendants who had been arrested, for a violent crime or assault, had Anger Scale scores at or above the 70th percentile, and the overall accuracy was 79 percent. This means that there is a very strong, positive correlation between Anger Scale scores and total number of arrests.

Taken together, these results strongly support the reliability, validity, and accuracy of the Anger Management Profile. Reliability coefficient alphas were significant at $p<.001$ for all Anger Management Profile scales. T-test comparisons between first offenders and multiple offenders support discriminant validity of the Alcohol Scale, Drug Scale, Antisocial Scale, and Anger Scale, because multiple offenders scored, significantly, higher on the different scales, than first offenders. Predictive validity of the Alcohol Scale, Drug Scale, and Anger Scale was shown

by the accuracy with which the scales identified problem risk behavior (having had treatment or having had an arrest). The Alcohol Scale had an accuracy of 79 percent, the Drug Scale had an accuracy of 78 percent, and the Anger Scale had an accuracy of 79 percent. These results support the reliability, validity, and accuracy of the Anger Management Profile.

22. Validation of the Anger Management Profile in Drug Court Clients

This study (1998) investigated the Anger Management Profile in a sample of drug court clients, and replicated an earlier study that reported scale accuracy, discriminant and predictive validity, as well as reliability tests. The earlier study validated the Anger Management Profile on a small sample (N=100) of drug court defendants. The present, study sample consisted of a larger sample of 300, drug court defendants.

Within-test **reliability** statistics were performed on the Anger Management Profile, as was done in the earlier investigation. The within-test reliability measures, or inter-item reliability, are reported with coefficient alpha. Reliability coefficient alphas for the six, Anger Management Profile scales are presented.

The two, **validity** statistics that were carried out in the previous study are also used to test the validity of the Anger Management Profile. For an explanation of these validation procedures, please refer to the study presented above. The first, validation procedure compares first offenders and multiple offenders (discriminant validity). Multiple offenders are defined as offenders who reported two or more arrests on their Anger Management Profile answer sheet. For the Alcohol Scale t-test comparisons, alcohol arrests are used to categorize offenders as either a first offender or a multiple offender. For the Drug Scale, drug arrests are used to categorize offenders and for all other scales, offenders are categorized by total number of times arrested. Because risk is often defined in terms of severity of problem behavior, it is expected that multiple offenders would score, significantly, higher on the different scales than first offenders.

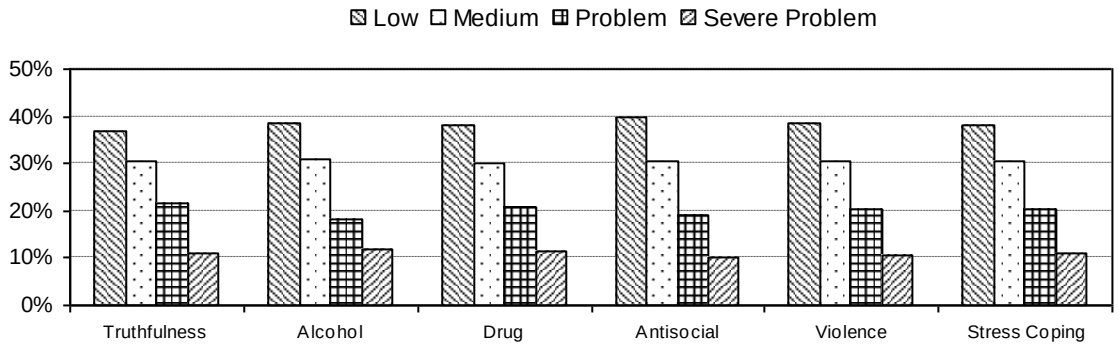
The second validation procedure (predictive validity) determines the accuracy of the Anger Management Profile in identifying cases with "known" problems. For this procedure, known cases are defined as clients who have been in treatment for alcohol or drugs, or have been arrested for assault or a violent crime. This procedure is used to validate the Alcohol Scale, Drug Scale, and Anger Scale.

Method and Results

The Anger Management Profile was administered to 300, drug court clients, (1998) as part of routine evaluation in a southwestern, municipal court, substance abuse, screening program. There were 242 (80.7%) males and 58 (19.3%) females. The demographic composition of the drug court clients was as follows: Age in years: 19 & under (17.7%); 20-29 (36%); 30-39 (29.3%); 40-49 (10.3%); 50-59 (5.3%); 60 & over (0.7%). Ethnicity: Caucasian (25.6%); Black (2.4%); Hispanic (64.7%); Native American (5.2%); Other (2.1%). Education: 8th grade or less (7.3%); Some High School (28.7%); H.S. graduate (47.3%); Some college (8%); College graduate (6.3%). Marital Status: Single (69.6%); Married (20.4%); Divorced (7.8%); Separated (1.5%); Windowed (0.7%).

Comparisons of obtained, Anger Management Profile, risk range percentile scores to predicted percentages are presented in the figure and table below. Predicted risk range percentages are presented in the right hand column of Table 15.

Table 15. Risk Range Percentile Scores for Drug Court Clients (N = 300, 1998).



Risk Range	Truthfulness	Alcohol	Drug	Antisocial	Violence	Stress Coping	**Predicted**
Low	37.0	38.7	38.0	40.0	38.7	38.0	**39%**
Medium	30.3	31.0	30.0	30.7	30.3	30.7	**30%**
Problem	21.7	18.3	20.7	19.0	20.3	20.3	**20%**
Maximum	11.0	12.0	11.3	10.3	10.7	11.0	**11%**

Comparisons between obtained, risk range percentages and predicted percentages show that all obtained, risk range percentile scores were within 2.0 percent of predicted. Twenty-one (21) of the 24, possible risk range percentages (6 scales x 4 risk ranges) were within one percentage point of predicted. This is very accurate, defendant risk assessment.

These results show that obtained, risk range percentile scores closely approximated the predicted risk range percentile scores, for each of the six, Anger Management Profile scales presented in Table 15, for this sample of 300, drug court clients. These results indicate that the Anger Management Profile is a very accurate, risk assessment instrument for drug court use.

Reliability coefficient alphas are presented in Table 16.

Table 16. Reliability coefficient alphas (N = 300, 1998).
All coefficient alphas are significant at p<.001.

Anger Management Profile SCALE	**Drug court clients N = 300**
Truthfulness Scale	.90
Alcohol Scale	.93
Drug Scale	.91
Antisocial Scale	.84
Anger Scale	.89
Stress Coping Abilities	.92

These results strongly support the reliability of the Anger Management Profile. All of the coefficient alphas, for the Anger Management Profile scales, are well above, generally accepted standards (.80) for reliability. Most of the Anger Management Profile scales are at or above .90. These high, coefficient alpha results are similar to results found in previous studies. The Anger Management Profile is a statistically reliable, screening instrument for assessment of court and substance (alcohol and drugs) abuse defendants.

The t-test comparisons between first offenders and multiple offenders for each scale, is presented in Tables 17 through 19. There were 300, drug court defendants used in this discriminant validity analysis.

Table 17. T-test comparisons between first offenders and multiple offenders.
Offender status defined by total number of arrests. (N = 300, 1998)

Anger Management Profile Scale	First Offenders Mean (N=89)	Multiple Offenders Mean (N=211)	T-value	Level of significance
Truthfulness Scale	12.24	11.57	t = 0.89	n.s.
Antisocial Scale	11.67	23.58	t = 11.64	p<.001
Anger Scale	8.8	18.71	t = 8.13	p<.001
Stress Coping Abilities	137.99	122.5	t = 2.44	p=.015

Table 18. T-test comparison of Alcohol Scale between first offenders and multiple offenders.
Offender status defined by number of alcohol arrests.

Anger Management Profile Scale	First Offenders Mean (N=152)	Multiple Offenders Mean (N=148)	T-value	Level of significance
Alcohol Scale	11.5	23.53	t = 7.97	p<.001

Table 19. T-test comparison of Drug Scale between first offenders and multiple offenders.
Offender status defined by number of drug arrests.

Anger Management Profile Scale	First Offenders Mean (N=287)	Multiple Offenders Mean (N=13)	T-value	Level of significance
Drug Scale	10.4	31.85	t = 6.83	p<.001

These t-test results support the discriminant validity of the Anger Management Profile. T-test comparisons between first offenders and multiple offenders showed that multiple offenders scored, significantly, higher than first offenders on the Alcohol, Drug, Antisocial, Violence, and Stress Coping Abilities scales. The Truthfulness Scale showed that first offenders and multiple offenders

did not score, significantly, different. This suggests that first and multiple offenders are, equally, guarded in court-related settings.

The very large, significant difference between first and multiple offenders strongly support the discriminant validity of the Alcohol Scale, Drug Scale, Antisocial Scale, and Anger Scale. These results strongly support the Anger Management Profile as a valid instrument for the assessment of drug court defendants.

The test of predictive validity for the Alcohol Scale is presented in the table below. Defendants' Alcohol Scale scores are used to determine if the Alcohol Scale can, accurately, identify defendants who have been in alcohol treatment. Alcohol treatment information is obtained from defendants answers to Anger Management Profile test items, (#87 & #155) concerning alcohol treatment. In this analysis, it is predicted that offenders, who score at or above the 70th percentile, (Problem and Severe Problem risk) would indicate that the defendants had alcohol treatment. Defendants who scored between the 40th and 69th percentile are not included in the table, because the table distinguishes between problem and no problem behavior. No problem is defined as an Alcohol Scale score at or below the 39th percentile, whereas alcohol-related problematic behavior is defined as an Alcohol Scale score in the 70th or above percentile range.

As an indicator of "known" cases, treatment is not as accurate as a medical diagnosis. However, in assessment screening, treatment information is, readily, obtained from the client. Unfortunately, it is, highly, likely that there are defendants who have alcohol problems, but who have not been in alcohol treatment. Nevertheless, the ease by which this procedure can be done, using the Anger Management Profile database, makes it worthwhile.

Table 20. Predictive validity for the Alcohol Scale using scale scores and alcohol treatment.

	Alcohol Treatment		
Alcohol Scale	No treatment	One or more treatments	Number in each category
Low Risk (zero to 39th percentile)	107 (88%)	9 (11%)	116
Problem or Severe Problem Risk (70 to 100th percentile)	15 (12%)	76 (89%)	91
	122 (59%)	85 (41%)	N = 207

These results show that for the 85 defendants who reported having been in alcohol treatment, 76 defendants, or 89 percent had Alcohol Scale scores at or above the 70th percentile. The Anger Management Profile, Alcohol Scale was very accurate in identifying clients with known, alcohol problems. In decision-making terms, these are called "hits." Nearly, 90 percent of the clients who had alcohol treatment scored in the Problem or Severe Problem risk range, on the Alcohol Scale.

Of the 122 defendants who reported no alcohol treatment, 107 defendants or 88 percent had Alcohol Scale scores in the Low Risk, or no problem range. These are called "correct rejections." Combining the results of hits and correct rejections gives an overall accuracy, of the Alcohol Scale, of **88 percent**. This is very accurate assessment. These results show there is a very strong, positive

correlation between Alcohol Scale scores and alcohol treatment.

The predictive validity test for the Drug Scale was done in the same way, using drug treatment as the criterion, and is presented in the table below. **Of the 78 defendants who reported having been in drug treatment, 68 (hits) or 87 percent had Drug Scale scores in the 70th percentile or higher (Problem Risk and above). The Drug Scale is 87 percent accurate in identifying clients who have known, drug problems, as defined by having been in drug treatment.**

Table 21. Predictive validity for the Drug Scale using scale scores and drug treatment.

	Drug Treatment		
Drug Scale	No treatment	One or more treatments	Number in each category
Low Risk (zero to 39th percentile)	104 (79%)	10 (13%)	114
Problem or Severe Problem Risk (70 to 100th percentile)	28 (21%)	68 (87%)	96
	132 (63%)	78 (37%)	N = 210

Of the 132 defendants who did not have treatment, 104 (correct rejections) or 79 percent had Drug Scale scores in the Low Risk (no problem) range. This lower percentage is reasonable, because clients could have a drug problem without having been in treatment. Combining hits and correct rejections, the overall accuracy of the Drug Scale, in predicting drug treatment, was **82 percent**. These results show there is a very strong, positive correlation between the Drug Scale and drug treatment.

The predictive validity test for the Anger Scale, using violent crime arrests (Anger Management Profile items #73 & #161) as the criterion, is presented in the table below.

Table 22. Predictive validity for the Anger Scale using scale scores and violent crime arrests.

	Violent Crime Arrests		
Anger Scale	No arrests	One or more violent crime arrests	Number in each category
Low Risk (zero to 39th percentile)	109 (78%)	7 (10%)	116
Problem or Severe Problem Risk (70 to 100th percentile)	31 (22%)	62 (90%)	93
	140 (67%)	69 (33%)	N = 209

Of the 69 defendants who reported an assault or violent crime arrest, 62 (hits) or 90 percent had Anger Scale scores in the Problem or Severe Problem risk range. Of the 140 defendants who did not report violent crime arrests, 109 (correct rejections) or 78 percent had Low Risk Anger Scale scores. Hits and correct rejections combine for an Anger Scale accuracy of 82 percent. These results show there is a very strong, positive correlation between the Anger Scale and violent crime arrests. These results provide strong validation of the Anger Management Profile Anger Scale.

These results strongly support the reliability, validity, and accuracy of the Anger Management Profile. Reliability coefficient alphas for all, Anger Management Profile scales were significant at p<.001. T-test comparisons between first offenders and multiple offenders strongly support the discriminant validity of the Alcohol Scale, Drug Scale, Antisocial Scale, Anger Scale, and Stress Coping Abilities, because multiple offenders scored, significantly, higher on the Anger Management Profile scales, than first offenders. Validation of the Alcohol Scale, Drug Scale, and Anger Scale was shown, by the accuracy with which the scales identified problem risk behavior (having had treatment or having had a violent crime arrest).

23. Replication Study of Anger Management Profile Reliability, Validity, and Accuracy

This study (1999) replicated the previous study. As more Anger Management Profile tests are administered, they are evaluated on an ongoing basis. Until a database is built up, test results may reflect regional biases, rather than be representative of drug court defendants, as a population.

Method and Results

Anger Management Profile was administered to 337, drug court defendants (1999). There were 234 (69.4%) males and 103 (30.6%) females. The demographic composition of the participants was as follows: Age in years: 19 & under (13.9%); 20-29 (39.2%); 30-39 (29.4%); 40-49 (13.9%); 50-59 (3.0%); 60 & over (0.3%). Ethnicity: Caucasian (50.6%); Black (14.2%); Hispanic (31.3%); Native American (3.0%); Other (0.9%). Education: 8th grade or less (7.7%); Some High School (31.8%); H.S. graduate (45.7%); Some college (10.1%); College graduate (3.9%). Marital Status: Single (62.0%); Married (22.7%); Divorced (9.7%); Separated (5.3%); Windowed (0.3%).

Anger Management Profile, risk range accuracy for the four, risk range categories (low, medium, problem and high) is presented in Table 23. Predicted, risk range percentages are presented in the top row of the table.

Table 23. Accuracy of Anger Management Profile Risk Range Percentile Scores (N = 337, 1999).

Scale	Low Risk (39% Predicted)		Medium Risk (30% Predicted)		Problem Risk (20% Predicted)		Severe Problem (11% Predicted)	
Truthfulness	39.3	**(0.3)**	30.1	**(0.1)**	19.6	**(0.4)**	11.0	**(0.0)**
Alcohol	40.1	**(1.1)**	29.3	**(0.7)**	19.9	**(0.1)**	10.7	**(0.3)**
Drug	39.4	**(0.4)**	29.7	**(0.3)**	19.9	**(0.1)**	11.0	**(0.0)**
Antisocial	40.7	**(1.7)**	28.5	**(1.5)**	20.1	**(0.1)**	10.7	**(0.3)**
Violence	39.2	**(0.2)**	29.5	**(0.5)**	20.3	**(0.3)**	11.0	**(0.0)**
Stress Coping	39.5	**(0.5)**	29.6	**(0.4)**	20.2	**(0.2)**	10.7	**(0.3)**

Anger Management Profile, obtained risk range percentages were within 1.7 percent of predicted percentages on all, Anger Management Profile scales and risk range categories. These results mean that Anger Management Profile, risk range percentile scores are over 98 percent accurate. This is very accurate, defendant risk assessment.

Reliability coefficient alphas are presented in Table 24.

Table 24. Reliability of Anger Management Profile (N=337, 1999)

Anger Management Profile SCALES	Coefficient Alphas
Truthfulness Scale	**.90**
Alcohol Scale	**.94**
Drug Scale	**.93**
Antisocial Scale	**.84**
Anger Scale	**.87**
Stress Coping Abilities	**.94**
Substance Abuse/ Dependency Scale	**.95**

All coefficient alphas are significant at p<.001.

The inter-item reliability (alpha) coefficients for the Anger Management Profile scales were highly reliable. Reliability coefficient alphas for all, Anger Management Profile scales were at or above 0.84. These results demonstrate that the Anger Management Profile is statistically reliable.

Discriminant validity results are presented in Table 25. Defendants were separated into two groups, based the Anger Management Profile answer sheet item, "Total number of times arrested." First offenders had one arrest and multiple offenders had 2 or more arrests. T-test comparisons were used to study the statistical significance between first and multiple offenders. There were 95, first offenders and 242, multiple offenders.

Table 25. Comparisons between first offenders and multiple offenders (N=337, 1999).

Anger Management Profile Scale	First Offenders Mean	Multiple Offenders Mean	T-value	Level of Significance
Truthfulness Scale	9.59	8.58	t = 1.43	n.s.
Alcohol Scale	11.58	17.32	t = 3.63	p<.001
Drug Scale	12.55	18.57	t = 3.73	p<.001
Antisocial Scale	13.28	26.46	t = 13.24	p<.001
Anger Scale	10.86	21.98	t = 9.60	p<.001
Stress Coping Abilities	124.99	107.76	t = 2.90	p=.003

*Note: The Stress Coping Abilities Scale is reversed, in that higher scores are associated with better, stress coping skills.

Mean (average) scale scores of first offenders were, significantly, lower than scores for multiple offenders on all, Anger Management Profile scales, with the exception of the Truthfulness Scale. Truthfulness Scale results suggest that first offenders tried to minimize their problems or fake good, when tested, more than did multiple offenders. Yet, the difference was not statistically significant. The Anger Management Profile accurately differentiated between first offenders and multiple offenders. These results support the validity of the Anger Management Profile.

Predictive validity results for the correct identification of problem behavior (violence tendencies, antisocial attitudes, and drinking and drug abuse problems) are based on the percentages of defendants who had treatment, or admitted to having problems and, who scored in the problem risk range, when compared to defendants who scored in the low risk range. For the Alcohol and Drug Scales criteria, problem behavior meant that the defendant had alcohol treatment or drug

treatment. For the Anger Scale criterion, the defendant admitted having been arrested for a violent crime. For the Antisocial Scale criterion, defendants admitted they were antisocial. In these analyses, scale scores in the Low risk range (zero to 39th percentile) represent "no problem," whereas, scores in the Problem and Severe Problem risk ranges (70th percentile and higher) represent alcohol, drug, violence, or antisocial problems.

The Anger Management Profile, Alcohol Scale accurately identified 92.7 percent of the defendants who had alcohol problems. Defendants, who had been in alcohol treatment, (problem drinkers) had Alcohol Scale scores at or above the 70th percentile. It is likely that some defendants had alcohol problems, but had not been in treatment. For these individuals, scoring at or above the 70th percentile on the Alcohol Scale, alcohol treatment is recommended. The Anger Management Profile, Drug Scale was also, very accurate in identifying defendants who have drug problems. Over, 93 percent (93.3%) of the defendants who had been in drug treatment had Drug Scale scores at or above the 70th percentile. These results strongly substantiate the accuracy of the Anger Management Profile, Drug Scale.

The Anger Scale correctly identified (**94.6%**) defendants who admitted violence problems. Defendants who had been arrested for a violent crime scored in the problem range. The direct admission of a violence problem validates the Anger Scale. The Antisocial Scale correctly identified (**97.8%**) offenders who admitted they were antisocial. Direct admission of antisocial attitudes validates the Antisocial Scale. These results support the validity of the Anger Management Profile Violence, Antisocial, Alcohol, and Drug Scales. The other two, Anger Management Profile scales were not included in these analyses, because of a lack of direct admission or other, criterion measures within the Anger Management Profile database.

The results of this study favorably replicated the previous study. High, statistical reliability is maintained, as well as validity and risk range, accuracy outcomes. The sample of drug court defendants in this study had more females, Blacks, and fewer Hispanics, than the previous study. Even, these differences did not change the Anger Management Profile results, substantially.

24. A Study of Anger Management Profile Reliability, Validity and Accuracy

This study (2000) investigated the reliability, validity, and accuracy of the Anger Management Profile, in a sample of drug court defendants. Data for this study was collected in the year 2000, from test users from around the U.S. This Anger Management Profile data adds to the Anger Management Profile database, but the test administrations reported, in the current study, are unique and have not been previously reported. Anger Management Profile tests are analyzed annually to evaluate test statistics and scoring procedures. Gender and race differences are examples of modifications to the test software that are based on ongoing, database research. This study closely follows the previous studies that report Anger Management Profile reliability, validity, and accuracy analyses. Refer to the earlier studies for explanations of statistical procedures.

<u>Method and Results</u>

The Anger Management Profile was administered to 363, drug court defendants (2000). There were 254 (70.0%) males and 109 (30.0%) females. The demographic composition of the participants was as follows: Age in years: 19 & under (13.5%); 20-29 (39.4%); 30-39 (29.2%); 40-49 (14.3%); 50-59 (2.8%); 60 & over (0.6%). Ethnicity: Caucasian (50.4%); Black (13.7%); Hispanic (31.9%); Native American (2.8%); Other (1.1%). Education: 8th grade or less (7.4%);

Some High School (31.7%); H.S. graduate (46.6%); Some college (9.6%); College graduate (3.9%). Marital Status: Single (62.2%); Married (23.3%); Divorced (9.3%); Separated (4.9%); Windowed (0.3%).

Anger Management Profile, risk range accuracy for the four, risk range categories (low, medium, problem and high) is presented in Table 26. Predicted, risk range percentages are presented in the top row of the table.

Table 26. Accuracy of Anger Management Profile Risk Range Percentile Scores (N = 363, 2000).

Scale	Low Risk (39% Predicted)		Medium Risk (30% Predicted)		Problem Risk (20% Predicted)		Severe Problem (11% Predicted)	
Truthfulness	40.2	**(1.2)**	30.9	**(0.9)**	19.4	**(0.6)**	9.5	**(1.5)**
Alcohol	39.4	**(0.4)**	30.3	**(0.3)**	19.6	**(0.4)**	10.7	**(0.3)**
Drug	40.3	**(1.3)**	28.6	**(1.4)**	20.3	**(0.3)**	10.8	**(0.2)**
Antisocial	38.5	**(0.5)**	30.1	**(0.1)**	20.7	**(0.7)**	10.7	**(0.3)**
Violence	39.9	**(0.9)**	28.6	**(1.4)**	21.0	**(1.0)**	10.5	**(0.5)**
Stress Coping	38.8	**(0.2)**	29.5	**(0.5)**	21.2	**(1.2)**	10.5	**(0.5)**

Obtained, risk range percentages on all, Anger Management Profile scales were within 1.5 percent of predicted percentages. These results, empirically, demonstrate that Anger Management Profile, risk range percentile scores are over, 98 percent accurate. Small differences between defendant-obtained percentages and predicted percentages attest to the Anger Management Profile's accuracy.

Reliability coefficient alphas for Anger Management Profile scales are presented in Table 27.

Table 27. Reliability of Anger Management Profile (N=363, 2000)

Anger Management Profile SCALES	Coefficient Alphas	Significance Level
Truthfulness Scale	**.90**	$p < .001$
Alcohol Scale	**.94**	$p < .001$
Drug Scale	**.93**	$p < .001$
Antisocial Scale	**.85**	$p < .001$
Anger Scale	**.88**	$p < .001$
Stress Coping Abilities	**.94**	$p < .001$

Reliability coefficient alphas for all, Anger Management Profile scales were at or above 0.85, and empirically demonstrate that the Anger Management Profile is a statistically, reliable test.

Discriminant validity results are presented in Table 28. Defendants were separated into two groups, based the Anger Management Profile answer sheet item "Total number of times arrested." First offenders had one arrest and multiple offenders had 2 or more arrests. T-test comparisons were used to study the statistical significance between first and multiple offenders. There were 100, first offenders and 263, multiple offenders.

Table 28. Comparisons between first offenders and multiple offenders (N=363, 2000).

Anger Management Profile Scale	First Offenders Mean	Multiple Offenders Mean	T-value	Level of Significance
Truthfulness Scale	9.56	8.82	t = 1.07	n.s.
Alcohol Scale	11.50	17.31	t = 3.76	p<.001
Drug Scale	12.88	18.34	t = 3.36	p<.001
Antisocial Scale	13.24	26.13	t = 13.25	p<.001
Anger Scale	11.06	21.70	t = 9.30	p<.001
Stress Coping Abilities	123.34	110.09	t = 2.35	p=.02

*Note: The Stress Coping Abilities Scale is reversed, in that higher scores are associated with better, stress coping skills.

As in previous studies, mean (average) scale scores of first offenders were, significantly, lower than scores for multiple offenders on all, Anger Management Profile scales, with the exception of the Truthfulness Scale. Again, Anger Management Profile scales accurately differentiated between first offenders and multiple offenders. These results demonstrate that Anger Management Profile scales are valid.

Predictive validity results for the correct identification of problem behavior (violence tendencies, antisocial attitudes, and drinking and drug abuse problems) are as follows. The Alcohol Scale identified **93.2** percent of the defendants who had alcohol problems. Defendants who had been in alcohol treatment (problem drinkers) had Alcohol Scale scores at or above the 70th percentile. The Drug Scale was, also, accurate in identifying defendants who have drug problems. Over 93 percent (**93.4%**) of the defendants who had been in drug treatment had Drug Scale scores at or above the 70^{th} percentile. The Anger Scale correctly identified (**96.4%**) defendants who admitted violence problems. Defendants who had been arrested for a violent crime scored in the problem range. The Antisocial Scale correctly identified (**95.0%**) offenders who admitted they were antisocial. The validity of the Anger Management Profile Violence, Antisocial, Alcohol, and Drug Scales is demonstrated by these results.

The results of this study are similar to the studies presented above. Anger Management Profile reliability is maintained at or above .85; validity is, again, demonstrated empirically, and scale score risk range percentile accuracy was, again, within two percent of expected percentiles. The Anger Management Profile is fundamentally sound and replicate statistics, across different samples.

25. Anger Management Profile Test Statistics: An Ongoing Analysis

This study (2001) continues the analyses of Anger Management Profile reliability, validity, and accuracy, in a sample of drug court defendants. Data for this study was collected in the year 2001, from the agencies and departments that use the Anger Management Profile. Test data have not been previously reported. This study closely follows the previous studies that report Anger Management Profile reliability, validity, and accuracy analyses.

Method and Results

The Anger Management Profile was administered to 427, drug court defendants (2001). There

were 326 (76.3%) males and 101 (23.7%) females. The demographic composition of the participants was as follows: Age in years: 19 & under (17.3%); 20-29 (37.2%); 30-39 (26.5%); 40-49 (15.5%); 50-59 (2.1%); 60 & over (1.2%). Ethnicity: Caucasian (70.2%); Black (3.6%); Hispanic (22.9%); Native American (1.7%); Other (1.7%). Education: 8th grade or less (7.7%); Some High School (23.4%); H.S. graduate (53.4%); Some college (9.8%); College graduate (2.8%). Marital Status: Single (61.2%); Married (26.9%); Divorced (7.4%); Separated (3.8%); Windowed (0.8%).

Nearly three-fourths (71.6%) of the defendants reported having been arrested two or more times. Over half (50.9%) of the defendants had three or more arrests. Over one-fourth (27.8%) of the defendants had two or more, alcohol-related arrests and 9.5 percent had two or more, drug-related arrests. Nearly half (44.4%) of the defendants were sentenced to jail one or more times, and 7.8 percent were sentenced to prison one or more times.

Anger Management Profile, risk range accuracy for the four, risk range categories (low, medium, problem and high) is presented in Table 29. Predicted, risk range percentages are presented in the top row of the table. The differences between obtained and predicted risk range percentages are presented in parentheses in the table.

Table 29. Accuracy of Anger Management Profile Risk Range Percentile Scores (N = 427, 2001).

Scale	Low Risk (39% Predicted)		Medium Risk (30% Predicted)		Problem Risk (20% Predicted)		Severe Problem (11% Predicted)	
Truthfulness	40.7	**(1.7)**	28.8	**(1.2)**	21.1	**(1.1)**	9.4	**(1.6)**
Alcohol	39.3	**(0.3)**	29.6	**(0.4)**	20.1	**(0.1)**	11.0	**(0.0)**
Drug	39.7	**(0.7)**	29.3	**(0.7)**	20.0	**(0.0)**	11.0	**(0.0)**
Antisocial	39.1	**(0.1)**	30.5	**(0.5)**	20.1	**(0.1)**	10.3	**(0.7)**
Violence	39.1	**(0.1)**	29.5	**(0.5)**	19.9	**(0.1)**	11.5	**(0.5)**
Stress Coping	39.3	**(0.3)**	30.0	**(0.0)**	19.7	**(0.3)**	11.0	**(0.0)**

Anger Management Profile, scale risk range percentages closely approximate the predicted percentages. The obtained, risk range percentages were within 1.7 percent of the predicted percentages and are over 98 percent accurate. The Anger Management Profile accurately assesses drug court defendants.

Reliability coefficient alphas are presented in Table 30.

Table 30. Reliability of the Anger Management Profile (N=427, 2001)

AMP SCALES	Coefficient Alphas	Significance Level
Truthfulness Scale	**.89**	p < .001
Alcohol Scale	**.94**	p < .001
Drug Scale	**.92**	p < .001
Antisocial Scale	**.84**	p < .001
Anger Scale	**.86**	p < .001
Stress Coping Abilities	**.92**	p < .001

Reliability coefficient alphas for all, Anger Management Profile scales were at or above 0.84, and empirically demonstrate that Anger Management Profile scales are statistically reliable.

Discriminant validity results are presented in Table 31. Defendants were separated into two groups, based on the Anger Management Profile, answer sheet item, "Total number of times arrested." First offenders had one arrest and multiple offenders had 2 or more arrests. T-test comparisons were used to study the statistical significance between first and multiple offenders. There were 140, first offenders and 287, multiple offenders.

Table 31. Comparisons between first offenders and multiple offenders (N=427, 2001).

AMP Scale	First Offenders Mean	Multiple Offenders Mean	T-value	Level of Significance
Truthfulness Scale	12.17	10.59	t = 2.70	p=.008
Alcohol Scale	6.15	12.40	t = 4.96	p<.001
Drug Scale	8.79	12.73	t = 3.35	p<.001
Antisocial Scale	10.61	24.18	t = 18.41	p<.001
Anger Scale	7.11	19.29	t = 14.37	p<.001
Stress Coping Abilities	131.26	115.49	t = 3.45	p<.001

*Note: The Stress Coping Abilities Scale is reversed, in that higher scores are associated with better, stress coping skills.

Average scale scores of first offenders were, significantly, lower than average scores for multiple offenders on all, Anger Management Profile scales, except the Truthfulness Scale. These results are consistent with those reported in previous, Anger Management Profile studies. Offenders, who have problems, (multiple arrests) score higher on Anger Management Profile scales, than offenders who have only one arrest. Anger Management Profile scales measure what they purport to measure, that is, defendant risk.

Predictive validity results for the correct identification of problem behavior (violence tendencies, antisocial attitudes, and drinking and drug abuse problems) are as follows. The Alcohol Scale identified **100** percent of the defendants who had alcohol problems. Defendants who had been in alcohol treatment (problem drinkers) had Alcohol Scale scores at or above the 70th percentile. The Drug Scale was also accurate in identifying defendants who have drug problems. Over 95 percent (**95.6%**) of the defendants who had been in drug treatment had Drug Scale scores at or above the 70^{th} percentile. The Anger Scale correctly identified (**100%**) defendants who admitted violence problems. Defendants, who had been arrested for a violent crime, scored in the problem range. The Antisocial Scale correctly identified (**100%**) offenders who admitted they were antisocial. These results are, somewhat, higher than those reported in previous studies, but there doesn't appear to

be much difference in the demographic composition of this sample, from previous Anger Management Profile, study samples. Anger Management Profile Violence, Antisocial, Alcohol, and Drug Scales are accurate.

The results of this study demonstrate that Anger Management Profile reliability, validity, and scale score accuracy are well established. The Anger Management Profile, accurately and reliably, assesses drug court defendants' risk and needs.

26. Anger Management Profile Test Statistics and Recidivism Prediction

This study (2002) developed a prediction equation for recidivism, and continued the analyses of Anger Management Profile reliability, validity, and accuracy, in a sample of drug court defendants. Data for the Anger Management Profile test statistics was collected in the year 2002 and has not been previously reported.

The prediction analysis combined recent, Anger Management Profile tests for a total N of 1,868. The predictive ability of the Anger Management Profile, in predicting number of arrests, was examined. The demographic variables used in the analysis were: Age, gender, race, education level, and marital status. Court history variables included, age at first arrest, alcohol arrests, and drug arrests. Anger Management Profile scales, or "criminogenic needs" variables included the Truthfulness, Alcohol, Drug, Antisocial, Violence, Stress Coping Abilities, and the Substance Abuse/Dependency Classification Scale. Multiple, regression analysis was used to determine which predictor variables significantly contributed to the prediction equation.

Method and Results

The Anger Management Profile was administered to 736, drug court defendants (2002). There were 537 (73.0%) males and 199 (27.0%) females. The demographic composition of the participants was as follows: Age in years: 19 & under (16.3%); 20-29 (36.3%); 30-39 (23.5%); 40-49 (16.2%); 50-59 (6.8%); 60 & over (0.8%). Ethnicity: Caucasian (85.7%); Black (6.2%); Hispanic (5.7%); Native American (1.7%); Other (0.7%). Education: 8th grade or less (2.3%); Some High School (24.5%); H.S. graduate (48.8%); Some college (13.6%); College graduate (7.6%). Marital Status: Single (58.3%); Married (25.8%); Divorced (10.1%); Separated (4.2%); Windowed (1.7%).

Anger Management Profile, risk range accuracy for the four, risk range categories (low, medium, problem and high) is presented in Table 32. Predicted, risk range percentages are presented in the top row of the table.

Table 32. Accuracy of Anger Management Profile Risk Range Percentile Scores (N = 736, 2002).

Scale	Low Risk (39% Predicted)		Medium Risk (30% Predicted)		Problem Risk (20% Predicted)		Severe Problem (11% Predicted)	
Truthfulness	39.6	**(0.6)**	29.3	**(0.7)**	19.5	**(0.5)**	11.6	**(0.6)**
Alcohol	40.6	**(1.6)**	30.3	**(0.3)**	18.5	**(1.5)**	10.6	**(0.4)**
Drug	39.4	**(0.4)**	31.3	**(1.3)**	18.7	**(1.3)**	10.6	**(0.4)**
Antisocial	39.2	**(0.2)**	29.0	**(1.0)**	21.3	**(1.3)**	10.5	**(0.5)**
Violence	38.3	**(0.7)**	30.7	**(0.7)**	20.7	**(0.7)**	10.3	**(0.7)**
Stress Coping	39.5	**(0.5)**	29.5	**(0.5)**	20.4	**(0.4)**	10.6	**(0.4)**

Anger Management Profile scale scores are within 1.6 percent of predicted percentages and are highly accurate. They are over 98 percent accurate. The Anger Management Profile accurately assesses drug court defendants.

Reliability coefficient alphas are presented in Table 33.

Table 33. Reliability of the Anger Management Profile (N=736, 2002)

AMP SCALES	Coefficient Alphas	Significance Level
Truthfulness Scale	**.89**	p < .001
Alcohol Scale	**.94**	p < .001
Drug Scale	**.89**	p < .001
Antisocial Scale	**.84**	p < .001
Anger Scale	**.86**	p < .001
Stress Coping Abilities	**.93**	p < .001

Reliability coefficient alphas for all, Anger Management Profile scales were at or above 0.84, and demonstrate that the Anger Management Profile is a statistically, reliable test.

Discriminant validity results are presented in Table 34. T-test comparisons between first offenders (one arrest) and multiple offenders (2 or more arrests) indicate that Anger Management Profile scale, successfully, differentiate between first and multiple offenders. There were 292, first offenders and 444, multiple offenders.

Table 34. Comparisons between first offenders and multiple offenders (N=736, 2002).

AMP Scale	First Offenders Mean	Multiple Offenders Mean	T-value	Level of Significance
Truthfulness Scale	13.03	11.08	t = 4.73	p<.001
Alcohol Scale	4.40	10.02	t = 7.87	p<.001
Drug Scale	4.62	8.05	t = 5.66	p<.001
Antisocial Scale	11.12	22.70	t = 21.02	p<.001
Anger Scale	7.52	17.90	t = 15.79	p<.001
Stress Coping Abilities	134.48	124.76	t = 2.76	p<.001

*Note: The Stress Coping Abilities Scale is reversed, in that higher scores are associated with better, stress coping skills.

First offenders scored, significantly, lower than multiple offenders on all, Anger Management Profile scales, with the exception of the Truthfulness Scale. These results replicate previous studies and support Anger Management Profile discriminant validity. Anger Management Profile scales measure what they purport to measure, that is, offender risk.

Predictive validity results also validate Anger Management Profile scales. The Alcohol Scale identified **100** percent of the defendants who had been in alcohol treatment (problem drinkers). The Drug Scale identified defendants with drug problems. Over 95 percent (**95.6%**) of the defendants who had been in drug treatment had Drug Scale scores at or above the 70th percentile. The Anger Scale correctly identified (**100%**) defendants who admitted violence problems. The Antisocial Scale correctly identified (**100%**) offenders who admitted they were antisocial.

Multiple, regression results demonstrated that Anger Management Profile variables, significantly, predicted number of arrests, Multiple R=.72, F=174.37, p<.001. The five, best, predictor variables and their Beta values were Anger Management Profile Antisocial Scale (.453), alcohol arrests (.235), Anger Management Profile Anger Scale (.196), drug arrests (.136), and age (.115). The remaining variables in the equation include, Anger Management Profile Alcohol Scale, Anger Management Profile Drug Scale, Anger Management Profile Stress Coping Abilities Scale, age at first arrest, and history or alcohol treatment.

These results indicate that the Anger Management Profile accurately predicts recidivism. The equation is derived, mainly, from Anger Management Profile scales and is not heavily dependent on criminal history variables. The advantage of this is that criminal history information can be gotten from the defendant. It is not necessary to retrieve information from court records, something that is not always available to agencies, especially those in rural areas. What little, criminal history there is could be eliminated and the prediction would still be sufficiently accurate. Another advantage of having few, criminal history variables, in the prediction equation, is that first offenders usually have little data, but their recidivism prediction will be accurate, because it is not dependent on criminal history.

This study supports the reliability, validity, and accuracy of the Anger Management Profile, and in addition, the Anger Management Profile has been demonstrated to, accurately, predict recidivism.

27. AMP Reliability and Validity Study Using Online Data Submissions (2014)

The Anger Management Profile (AMP) assessment was developed to help meet the needs of court screening and assessment for incidents of anger, violence, disorderly conduct that may be considered domestic violence. This study was conducted using a fairly large sample of clients.

Participants: There were 2, 757 test takers, the majority were single, Caucasian males in their 30s, with at least a high school education. Arrest history: 20% had one or more alcohol-related arrests; 20% had one or more drug-related arrests; 33% had one more arrests for assault. Risk: Majority of offenders were considered Low Risk as measured by AMP scales

Reliability

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

Table 35. AMP Reliability (N = 2, 757, 2014)

AMP Scales	Coefficient Alpha
Truthfulness	.90
Alcohol	.95
Drugs	.95
Anger	.94
Stress Management	.92

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

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Table 36. AMP Validity (N = 2, 757, 2014)

	Program Attendance	N	Mean	*t*	*p*
Truthful	Not Attendance	2066	9.75	4.00	.000
	Attended 1 or more	691	8.60		
Alcohol	Not Attendance	2066	11.50	4.38	.000
	Attended 1 or more	691	14.82		
Drug	Not Attendance	2066	11.17	6.92	.000
	Attended 1 or more	691	16.40		
Anger	Not Attendance	2066	11.58	12.99	.000
	Attended 1 or more	691	16.37		
Stress	Not Attendance	2066	123.05	5.95	.000
	Attended 1 or more	691	109.37		

Validity

In testing, the term *validity* refers to the extent that a test measures what it was designed to measure. A test cannot be accurate without being valid. When individuals known to have more severe problems or symptoms receive higher scale scores than individuals known to have fewer problems or symptoms, the test is said to have evidence of construct validity (DeVon et al., 2007). Offenders

were classified into two categories, *Never Attended* and *Attended 1 or More* anger management; 75% had never attended a program and 25% had attended 1 or more anger management programsResults found higher mean scale scores for attenders on all scales except the Truthfulness Scale. Higher mean scores for non-attenders on the Truthfulness Scale are likely related to offender experience with assessment procedures; repeat attenders are aware that attempts to deceive, or minimize problems will be detected.

T-test analyses were conducted to examine whether the differences between mean scores were statistically significant. Results were statistically significant for all scales. Overall, these findings demonstrate that the AMP effectively differentiates between offenders who are known to have more severe problems.

28. AMP Reliability and Validity Test Statistics (2019)

This study (2019) continues the analyses of Anger Management Profile reliability, validity, and accuracy, in a sample of online tests administered by Behavior Data Systems Inc. Data for this study was collected in 2019, from the agencies and departments that use the Anger Management Profile between January 1, 2015 and August 21, 2019. Test data have not been previously reported. This study closely follows the previous studies that report Anger Management Profile reliability, validity, and accuracy analyses.

Method and Results

The Anger Management Profile was administered to 3,913, drug court defendants (2015-2019). There were 2,799 (71.5%) males and 1,114 (28.5%) females. The demographic composition of the participants was as follows: Ethnicity: Caucasian (65.7%), African American (12.4%), Hispanic (9.3%), Asian (1.0%), Native American (4.2%), Other (3.7%). Education: 8th grade or less (2.6%), some high school (17.7%), obtained a GED (31.6%), graduated high school (24.7%), completed trade or technical school (8.7%), some college (6.7), graduated college (3.1%), attended graduated school (<1%). Marital Status: Single (50.6%), married (24.5%), divorced (12.5), separated (7.4%), widowed (<1%).

18.4% of the defendants reported at least one alcohol arrest. 19.1% of defendants reported at least one drug arrest. 26.5% reported at least one assault arrest and 36.4% reported at least one domestic violence arrest.

Anger Management Profile, risk range accuracy for the four, risk range categories (low, moderate, problem, and severe problem) is presented in Table 37. Predicted, risk range percentages are presented in the top row of the table. The differences between obtained and predicted risk range percentages are presented in parentheses in the table.

Table 37 Accuracy of Anger Management Profile Risk Range Percentile Scores (N = 3,913, 2019).								
Scale	**Low Risk (39% Predicted)**		**Moderate Risk (30% Predicted)**		**Problem Risk (20% Predicted)**		**Severe Problem (11% Predicted)**	
Truthfulness	38.7	**(0.3)**	24.5	**(5.5)**	22.2	**(2.2)**	9.8	**(1.2)**
Alcohol	69.1	**(30.1)**	9.9	**(20.1)**	3.9	**(16.1)**	4.1	**(6.9)**
Drug	62.5	**(23.5)**	8.0	**(22.0)**	6.6	**(13.4)**	18.1	**(7.1)**
Anger	53.7	**(14.7)**	26.5	**(3.5)**	7.1	**(12.9)**	8.0	**(3.0)**
Stress Management	45.4	**(6.4)**	26.9	**(3.1)**	11.6	**(8.4)**	11.3	**(0.3)**

Anger Management Profile, scale risk range percentages closely approximate the predicted percentages on the Truthfulness, Anger, and Stress Coping Scales. The Alcohol and Drug Scales were heavily skewed towards the Low Risk range.

Reliability coefficient alphas are presented in Table 38.

Table 38. Reliability of the Anger Management Profile (N=3,913, 2019)

AMP SCALES	Coefficient Alphas	Significance Level
Truthfulness Scale	**.89**	p < .001
Alcohol Scale	**.94**	p < .001
Drug Scale	**.95**	p < .001
Anger Scale	**.95**	p < .001
Stress Management Scale	**.93**	p < .001

Reliability coefficient alphas for all Anger Management Profile scales were at or above 0.89, and empirically demonstrated that Anger Management Profile scales are statistically reliability.

Validity

In testing, the term validity refers to the extent that a test measures what it was designed to measure. A test cannot be accurate without being valid. When individuals known to have more severe problems or symptoms receive higher scale scores than individuals known to have fewer problems or symptoms, the test is said to have evidence of construct validity (DeVon et al., 2007). Offenders were classified into two categories, *Never Attended* and *Attended 1 or more* anger management; 78.3% had never attended a program and 19.3% had attended 1 or more anger management programs.

Table 39.

Group Statistics

	Program Attendance	N	Mean	*t*	*p*
Truthful	NO ATTENDANCE	4277	9.29	5.90	.000
	ATTENDED 1 OR MORE	1056	8.02		
Alcohol	NO ATTENDANCE	4277	9.88	-4.00	.000
	ATTENDED 1 OR MORE	1056	11.71		
Drug	NO ATTENDANCE	4277	11.06	-7.17	.000
	ATTENDED 1 OR MORE	1056	14.70		
Anger	NO ATTENDANCE	4277	9.37	-13.26	.000
	ATTENDED 1 OR MORE	1056	12.70		
Stress	NO ATTENDANCE	4277	120.72	5.88	.000
	ATTENDED 1 OR MORE	1056	109.69		

Results from table 39 found higher mean scale scores for attenders on all scales except the Truthfulness Scale. Higher mean scores for non-attenders on the Truthfulness Scale are likely related to offender experience with assessment procedures; repeat attenders are aware that attempts to deceive or minimize problems will be detected. The Stress Management Scale is scored with higher scores receiving lower risk ratings.

T-test analyses were conducted to examine whether the differences between mean scores were statistically significant. Results were statistically significant for all scales. Overall, these finding demonstrate that the AMP effectively differentiates between offenders who are known to have more severe problems.

The results of this study demonstrate that Anger Management Profile reliability, validity, and scale score accuracy are well established. The Anger Management Profile, accurate and reliability, assesses drug court defendants' risk and needs.

SUMMARY

In conclusion, this document summarizes many studies and statistics that support the reliability and validity of the Anger Management Profile. Based on this research, the Anger Management Profile presents an accurate picture of substance (alcohol and other drugs) abusers and the risk they represent. The Anger Management Profile provides a sound, empirical foundation for responsible, decision making.

Summarized research demonstrates that the Anger Management Profile is a reliable, valid, and accurate instrument for court defendant assessment. It is reasonable to conclude that the Anger Management Profile does what it purports to do. The Anger Management Profile 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 Anger Management Profile is not a personality test, nor is it a clinical, diagnostic instrument. Yet, it is much more than just another alcohol or drug test. The Anger Management Profile is an adult, risk and needs, assessment instrument.

Areas for future research are many and complex. Anger Management Profile research continues to evaluate age, gender, ethnicity, education, and first offenders vs. multiple offenders. Consistent with the foregoing, we encourage more research on demographic, cultural, and environmental factors impacting on defendant adjustment, risk and need.