Record: 1

Title: Anger Disorders Scale

Acronym: ADS; ADS:S.

Authors: DiGiuseppe, Raymond; Tafrate, Raymond Chip

Publication Date: 2004.


Purpose: 'Designed to help practitioners identify clinically dysfunctional anger'

Test Category: Personality.

Population: Ages 18 and over.

Scores: Reactivity/Expression (Scope of Anger Provocations, Physiological Arousal, Duration of Anger Problems, Rumination, Impulsivity, Coercion, Verbal Expression, Total), Anger-In (Hurt/Social Rejection, Episode Length, Suspiciousness, Resentment, Tension Reduction, Brooding, Total), Vengeance (Revenge, Physical Aggression, Relational Aggression, Passive Aggression, Indirect Aggression, Total), Total.

Administration: Individual or group.

Time: (20) minutes for Anger Disorders Scale; (5-10) minutes for Anger Disorders Scale: Short

Price Data: 2007 price data: $144 per ADS complete kit including technical manual, 10 reusable item booklets, and 25 each ADS and ADS:S QuickScore forms; $64 per technical manual; $42 per 25 ADS QuickScore forms; $40 per 25 ADS:S QuickScore forms; $23 per 10 reusable item booklets.

Comments: 2 forms: Anger Disorders Scale; Anger Disorders Scale: Short

Reviewers: Barnes, Laura L. B.; Lambert, Matthew E..

Yearbook Volume: 17.


Published Test Description: Anger Disorders Scale. Purpose: 'Designed to help practitioners identify clinically dysfunctional anger.' Population: Ages 18 and over. Publication Date: 2004. Administration: Individual or group. Forms, 2: Anger Disorders Scale; Anger Disorders Scale: Short. Price Data, 2006: $135 per ADS complete kit including technical manual (2004, 184 pages), 10 reusable item booklets, and 25 each ADS and ADS:S QuikScore forms; $64 per technical manual; $42 per 25 ADS QuikScore forms; $40 per 25 ADS:S QuikScore forms; $23 per 10 reusable item booklets. Authors: Raymond DiGiuseppe and Raymond Chip Tafrate. Publisher: Multi-Health Systems, Inc. a) ANGER DISORDERS SCALE. Acronym: ADS. Scores, 22: Reactivity/Expression (Scope of Anger Provocations, Physiological Arousal, Duration of Anger Problems, Rumination, Impulsivity, Coercion, Verbal Expression, Total), Anger-In (Hurt/Social
Rejection, Episode Length, Suspiciousness, Resentment, Tension Reduction, Brooding, Total), Vengeance (Revenge, Physical Aggression, Relational Aggression, Passive Aggression, Indirect Aggression, Total), Total. Time: (20) minutes. b) ANGER DISORDERS SCALE: SHORT. Acronym: ADS:S. Scores, 4: Reactivity/Expression, Anger-In, Vengeance, Total. Time: (5-10) minutes.

Accession Number: test.2818

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**Anger Disorders Scale**

Review of the Anger Disorders Scale by LAURA L. B. BARNES, Associate Professor of Research, Evaluation, Measurement, and Statistics, Oklahoma State University, Tulsa, OK:

DESCRIPTION. The Anger Disorders Scale (ADS) is a 74-item paper-pencil or computer-administered scale designed to "assess and identify aspects of anger that may lead to dysfunction and impairment in clinical populations" (technical manual, p. 1). The ADS comprises 18 subscales clustered into five domains (provocations, arousal, cognitions, motives, and behaviors), plus a positive impression index. Scores are obtained for each of the 18 scales, three higher order factors (Reactivity/Expression, Anger-In, and Vengeance) plus a total score. There is also a short form, the ADS:S containing 18 items, one from each subscale. Scores obtainable for the short form correspond to the three higher order factors from the long form plus a total score. The ADS was developed for the purpose of assessing dysfunctional anger to help practitioners devise individualized treatment plans. The authors also intended for the subscales to "assess relevant criteria needed for potential anger disorder diagnoses to be considered in future versions of the Diagnostic and Statistical Manual" (technical manual, p. 1).

The ADS scales are intended for individuals 18 years of age and up who are already believed to have anger problems such as aggression, domestic violence, sexual assaults, substance abuse, and marital problems, and/or who have been referred for a forensic evaluation or for employment concerns. The short form is recommended for screening or as part of an intake assessment battery or psychosocial assessment. Individuals completing the long form are presented with an item booklet containing 74 item stems with a five-option response format and a separate response sheet. Response formats primarily tend to measure frequency (e.g., never or rarely to almost every day), though some measure duration (e.g., a week or less to a year or more) or scope (almost nothing to almost everything). The 18-item short form items are included in the same booklet as the short form response sheet. The Dale-Chall procedure indicated the scales have a fifth grade reading level. The authors suggest the ADS should take about 20 minutes to complete and 5-10 minutes to complete the short form. Detailed administration instructions are provided in the manual.

The QuikScore Form is arranged to facilitate scoring and developing norm-referenced score profiles for males or females by age group. The top sheet of the QuikScore Form is the response sheet, which is perforated for easy top-half tear-away once the respondent is finished. This reveals a tear-away scoring form with instructions and beneath that are profile sheets for converting raw scores to percentiles separately for males and females by age group. Appendices in the technical manual include both percentiles and T-scores that are linearly derived, thus preserving the positively skewed distribution of raw scores.

DEVELOPMENT. The authors write that the scales mainly focus on characteristics that represent anger as a form of pathology because these characteristics are important to developing anger interventions. They provide an extensive review of current measures and note their limitations—both general measures such as the MMPI-2, Symptom Checklist-90-Revised, 16PF, and MCM-III; and anger specific measures such as the Novaco Anger Scale, Spielberger STAXI-2, Buss-Durkey Hostility Inventory, and Siegel's Multidimensional Anger Inventory. These and other scales were considered to be limited in their theoretical formulation, their lack of utility for
treatment planning, or lack of empirical support for their scale structure. The authors note that the ADS is unique in that, as well as measuring the four domains proposed by Novaco (1994), the ADS includes an additional domain of Motives. Thus, the five domains for which ADS items were to be developed were as follows: provocations, which represent the eliciting stimuli; cognitions, representing how stimuli are interpreted; arousal, which includes intensity, duration, and physical aspects of anger; motives, which includes the use of emotions to cope with stressful events; and behaviors that emerge to cope with stress.

Several versions of the ADS were developed and tested. The first version of the ADS contained only seven subscales. As research was conducted with various groups, additional subscales were developed to better assess the differences in anger experience of these groups. Items were required to load on a single factor, to discriminate between clinical and nonclinical groups, and to have correlations of at least .6 with other items on the same subscale or with other anger measures. Items not meeting these criteria were reworded or discarded. Items in the current version of the ADS have factor loadings of .3 or greater on their respective factors. The ADS:S (short form) was developed by selecting the single best item from each ADS subscale based on the above criteria.

TECHNICAL EVALUATION. The normative sample was composed of "normal" individuals who were not clinical referrals or indicating pathology at the time of testing. The total sample consisted of 1,429 individuals with complete data who were recruited from among college students in New York, Connecticut, and southern Indiana (21%), and through various places of employment in metropolitan New York. Further, 674 individuals were recruited through two internet sites. This sample was 64% Caucasian, 13% African American, and 12% Hispanic, with a mean age of 33. The final standardization sample used all 578 males and a random sample of 619 females from the total sample in order for the gender representation to be more balanced (48% male). The final standardization sample was 1,197.

Norms are presented for the final standardization sample of 1,197 and separately for males (n = 578) and females (n = 851, the total female normative group) in each of three age groups (18-29, 30-49, and 50 plus). The sample sizes are generally adequate for the two younger gender/age groups, though rather small for the over-50 group (78 for men, 103 for women). There were significant, though generally small, gender differences for several of the subscale and higher order factor scores, though no differences on the total score. Men scored significantly higher on Physical Aggression, Coercion, Revenge, and Indirect Aggression subscales; whereas women scored higher on Rumination, Episode Length, Scope of Anger Provocations, Hurt/Social Rejection, Resentment, and Suspiciousness subscales. The authors note the patterns of these subscale differences and the lack of total score differences on the ADS support the multidimensional structure of the ADS. On the short form, women scored higher on the higher order factor scores of Reactivity/Expression and Anger-In; whereas, men scored significantly higher on Vengeance. Women scored significantly higher than men on the total score of the ADS:S. Separate age norms are presented because of a sharp increase in total anger scores during the early 60s. Though separate ethnic norms were not developed because differences were small (generally within one score point), the authors recommend that cultural differences be taken into account in interpretation.

A separate clinical sample consisted of 1,015 individuals. These included aggressive drivers who completed the survey over the internet, psychotherapy general outpatients, mental health clients with anger problems, court referrals to a court intervention program, male and female medium security inmates, and incarcerated sex offenders. The authors report no score differences between those who completed the survey by internet and those who completed the paper/pencil version.

Reliability. Stratified alpha (often used when test data are multidimensional) was used to estimate the internal consistency of the scores in the standardization sample. Coefficients for the ADS total score for all normative groups and the clinical sample are .97 and above. For the ADS higher order factor scores, coefficients range from .90 to .96 for all groups except Women Over 50 where alpha = .85. ADS subscale alphas ranged from .70 to .88 in the overall sample (mean alpha = .81); from .71 to .90 in the clinical sample (mean alpha = .82); and
have a mean alpha for women of .80 and for men of .82 in the age/gender groups. For the ADS:S total score alphas range from .83 to .88; for all but one subscale ADS:S score alphas are in the range of .55 to .84, with one subscale alpha at .41 (median alpha = .73). Two-week test-retest coefficients for ADS and ADS:S total and subscale scores from 65 college students range from .75 to .92. The manual reports standard errors of measurement based on coefficient alpha, and standard errors for prediction based on test-retest coefficients. Validity. The standardization sample was randomly split into a derivation sample (n = 595) for exploratory factor analyses (EFA) and a replication sample (n = 605) for confirmatory factor analyses (CFA). Principal axis EFAs with oblique rotation and CFAs conducted separately on items within each of the 5 theoretical domains tended to support the subscale structure of the ADS. Support for the Relational Aggression subscale was rather weak in that these items did not load on one scale but were split across Physical Aggression and Passive Aggression. The authors acknowledge the exploratory nature of this construct and decided to retain this subscale.

The authors originally hypothesized four higher order factors based on Spielberger's theory of anger-in and anger-out. A four-factor EFA extraction failed to converge so the authors adopted a three-factor solution after oblique rotation as the basis for the higher-order factor scores. The three factors were Anger-In (primarily loaded by Hurt/Social Rejection, Suspiciousness, and Brooding); Vengeance (primarily loaded by Relational Aggression and Indirect Aggression); and Reactivity/Expression (primarily loaded by Physiological Arousal, Rumination, Impulsivity, and Verbal Expression). All subscales were assigned to the higher order factor on which they had the highest loading though only 11 of the 18 loaded significantly on a single factor and 6 had significant loadings on two factors. CFA fit indices for this correlated three-factor solution revealed a marginally acceptable fit. The three higher order factor scores were then submitted to a principal factor analysis (PFA) and a single factor emerged accounting for about 79% of the variance, providing support for a Total score. Results of EFA of the 18 ADS:S items generally supported the three-factor structure of the long form. It was considered desirable for the two forms to share the same scoring structure so any differences in the empirical factor structure were resolved by assigning ADS:S items to the same factor scales as they were assigned on the long form. An EFA of the three factor scores on the short form supported a one-factor solution thus supporting the interpretation of a Total score.

Four hundred forty-three individuals from the standardization sample also completed Spielberger's STAXI. The correlation between the Anger-In and Anger-Out subscales of the STAXI on the sample was .38; whereas the correlation between the higher order factors of Anger-In and Reactivity/Expression on the ADS was .62; and between ADS Anger-In and Vengeance was .51. The authors suggest these results may be due to the ADS measuring a broader range of anger reactions than the STAXI. Based on this and additional research with the ADS, the authors hypothesize that Anger-In and Anger-Out, rather than being independent dimensions of anger, are strongly related among individuals with dysfunctional anger.

Evidence for validity of the ADS and ADS:S scores for clinical and research purposes is presented via a number of studies examining the relationship of ADS scores to scores from other instruments. Correlations of ADS scales with scales from other anger measures (e.g., Spielberger State-Trait Anger Inventory, STAXI; Aggression Questionnaire, AQ) were consistent with the theoretical structure of the ADS; patterns of correlations with MCMI-III clinical syndromes scales are consistent with the ADS measurement of anger as psychopathology. However, the authors note that the correlations, though significant, are small, which they interpret to indicate that the DSM-IV "poorly represents anger in the present representation of psychopathology" (technical manual, p. 90). Other research examined the validity of the Positive Impression Index, which was found to correlate as expected with other impression management indices and to differ among clinical groups as expected.

COMMENTARY AND SUMMARY. The authors present a compelling case for the development of the ADS both in terms of its theoretical justification and the unique niche filled by this instrument as a clinically useful
multidimensional measure of pathological anger. The long form scales possess good psychometric characteristics; reliability is generally adequate for the short form, though a bit low for the Anger-In subscale (range = .55 to .68 across age groups) and alpha = .41 for Vengeance Among Women Over 50. The authors have assembled an impressive collection of evidence to support the use of these scales for their intended purpose. The factor structure is generally well-supported though the higher order factor scores may be influenced by some subscales with relatively low loadings. Additional reported research regarding the equivalence of scores derived from the long and short forms would be welcome. The technical manual is well-written and contains substantial guidance regarding clinical interpretation. The authors have written an informative literature covering theories and measures of anger as well as a section on next steps in research with the ADS. These instruments should be very useful to clinicians and researchers alike.

REVIEWER'S REFERENCE

Review of the Anger Disorders Scale by MATTHEW E. LAMBERT, Assistant Clinical Professor of Neuropsychiatry, Texas Tech University Health Sciences Center, Lubbock, TX:

DESCRIPTION. The Anger Disorders Scale (ADS) was designed "to assess and identify aspects of anger that may lead to dysfunction and impairment in clinical populations and to help practitioners devise individualized treatment plans" (technical manual, p.1). It is available in two forms: the 74-item Anger Disorders Scale, which produces 22 scores (18 subscale scores, 3 factor scores, and a total score); and the 18-item Anger Disorders Scale: Short (ADS:S), which produces 4 scores. The ADS also produces a Positive Impressions Index, which assesses aberrant response styles. All items are responded to on 5-point Likert scales and the entire instrument is hand-scored using tear-apart QuikScore forms. Scores from the ADS/ADS:S are then plotted as raw scores on the profile form according to age and sex. Raw scores can then be converted to percentiles. Percentiles of 75 or greater indicate anger pathology. T-scores for age and gender are provided in the appendices. T-scores at 61 or greater are viewed as clinically significant scale elevations. The ADS/ADS:S is intended for use with adults age 18 years and older; with three age ranges used for plotting scores: 18- to 29-year-olds, 30- to 49-year-olds, and those 50 years of age and older. The full-length ADS requires approximately 20 minutes to complete whereas the ADS:S requires 5 to 10 minutes to complete. A 172-page test manual accompanies the test and extensively discusses all aspects of ADS/ADS:S development and validation.

DEVELOPMENT. The ADS was developed to provide a clinically meaningful assessment of anger that was not available prior to its development. Although previous theories of anger had focused on anger as a trait, those instruments reportedly did not allow for the clinical assessment of anger necessary for development of remediation plans. This required anger to be considered a multidimensional phenomena involving both anger-in and anger-out, with differences in how various aspects of anger are displayed. Ultimately, the ADS was based on a five domain model of anger: (a) Provocations Domain, which addresses anger triggers; (b) Arousal Domain, involving the physiological arousal of anger along with intensity and duration; (c) Cognitions Domain, including aspects of appraisal and attitude impacting anger; (d) Motives Domain, reflecting the rationale for anger ranging from it being helpful, selfish, or emphasizing revenge; and (e) Behaviors Domain, ultimately anger expression or restraint. Each of these domains reflects a number of constructs ranging from only two for the Provocations Domain (i.e., Scope of Anger Provocations and Hurt/Social Rejection) to six for the Behaviors Domain (i.e., Brooding, Verbal Expression, Physical Aggression, Relational Aggression, Passive Aggression, and Indirect Aggression). A total of 18 constructs formed the foundation for the five anger domains. These then provide the basis for the 18 ADS subscales.

Items were written to assess each of the 18 constructs and administered to normal and clinical populations.
Any item that correlated less than .6 with other items from the subscale or with other anger measures, and that could not discriminate clinical and normal groups was either discarded or reworded. Additional items were added to subscales with inadequate reliability and items that loaded on more than one subscale were rewritten to reflect the meaning of just that subscale. Each subscale ultimately was made up of between three and six items. The ADS:S was constructed by drawing one exemplary item from each of the 18 subscales.

TECHNICAL. The psychometric properties of the ADS and ADS:S were determined from eight sample populations that included: normals (normative sample), aggressive drivers, psychotherapy outpatients, individuals seeking mental health treatment for anger problems, court intervention referrals, correctional institution inmates, incarcerated sex offenders, and individuals seeking anger treatment at a Canadian medical school. The normative sample was recruited from a variety of collegiate and governmental and nongovernmental entities, as well as from two internet sites. A total of 1,429 individuals comprised the normative sample with gender, age, and ethnicity differences being accounted. It is noted, however, that over 50% of the normative sample resided in New York State with 47 other states and the Canadian province of Ontario contributing less than 3% each to the normative sample.

ADS factor analytic studies were conducted by dividing the standardization sample into two equivalent derivation and replication samples. Both exploratory and confirmatory factor analyses were conducted for the items from the 18 subscales. Oblimin rotations accurately reflected the hypothesized ADS subscales and better goodness of fit was noted for the Provocations, Arousal, Cognitions, and Motives domains than for the Behaviors domain. Further factor analyses supported the creation of the higher order factor scores: Anger-In, Vengeance, and Reactivity/Expression along with an overall ADS Total score. Similarly, ADS:S factor analyses with oblimin rotations produced a higher order ADS:S total factor and three second order factors of Anger-In, Vengeance, and Reactivity/Expression.

Internal consistency for the overall standardization sample, age and gender subgroups, and clinical sample was assessed using a Stratified Alpha and found to be .97 to .98 for the ADS Total and .91 to .96 for the higher order factor scores. Cronbach's alpha for the 18 ADS subscales ranged from .60 to .97. As well, Cronbach's alphas for the ADS:S and its higher order factors ranged from .62 to .86. Two-week test-retest correlations for all ADS scores ranged from .79 to .92 whereas test-retest correlations for the ADS:S scores ranged from .83 to .92.

Validity studies were undertaken by comparing the ADS and ADS:S subscales and major factors to various widely used anger instruments. The ADS/ADS:S total scores correlated highly with the Spielberger Trait Anger Expression Inventory-2 (STAXI-2) Trait Anger subscale, r = .73 and .70, respectively. As well, a factor analysis based on 400 participants from the standardization sample and 100 prison inmates compared the ADS and STAXI-2 subscales to assess concurrent validity. A five-factor solution was determined, which reflected considerable overlap between the two instruments. Yet, the ADS was also noted to add significant information from the Provocations, Cognitions, and Motives domains that the STAXI-2 did not include.

Similarly, the ADS was compared to the Aggression Questionnaire (AQ) with correlations for the ADS total and factors scores and the ADS subscale scores. This was conducted with a portion of the normative sample as well as individuals from the anger disorders clinic. Correlations between the ADS and the five AQ scores for the normative sample ranged from .11 to .62 and all but seven of the correlations reached a .01 significance level, indicating good concurrent validity. For the anger disorders clinic group the correlations ranged from .09 to .86, although a smaller number of those correlations reached the .01 significance level. This suggested both concurrent and discriminant validity for a clinical population. A factor analysis of the ADS and AQ subscales, however, suggested that the two instruments measure different aspects of anger.

Also, to address concurrent validity, the ADS was compared to the Millon Clinical Multiaxial Inventory-III (MCMI-III) to assess the interaction of ADS concepts with DSM-IV-TR diagnostic signs. Correlations were again calculated between the ADS/ADS:S scores and the MCMI-III Clinical Syndrome and Personality Disorders
scales. Again, moderate correlations were noted between the various scales reflecting consistent concurrent validity to the MCMI-III.

Finally, differences between the various sample populations were determined for the ADS/ADS:S total, factor, and subscale scores. Angry outpatients scored highest from among the sample groups, with other groups who had designated anger problems scoring higher than those who had fewer anger problems. This suggested that the ADS/ADS:S possess adequate levels of discriminant validity.

COMMENTARY. The ADS and ADS:S were developed to provide a clinical assessment of anger to be used in treatment planning. As such, it provides a broad assessment of anger that should allow for individualized patient treatment plans in which the focus is the elements of anger that are problematic. This is in contrast to other anger assessment instruments that are less broad and more focused on anger as a trait versus a topic for clinical intervention. Although the broad nature of the ADS is a strength, the number of subscale scores produced may make it somewhat unwieldy as there may be too many permutations to try to account for in a clinical intervention.

Although the number of scores produced by the ADS may make it unwieldy, the true strength of the ADS/ADS:S lies in its psychometric underpinnings. Good reliability and concurrent validity data exist for all ADS/ADS:S scales. The only ADS/ADS:S psychometric weakness may be the normative sample’s somewhat restricted demographic range. It is unknown whether the ADS/ADS:S reflects a regional bias as the bulk of the sample was drawn from New York state.

With the good reliability and concurrent validity data present, however, there still is a need for further predictive validity data. This is particularly so because the ADS/ADS:S is designed for use in treatment planning. Being able to predict responsiveness to anger treatment would be an important component for treatment planning.

SUMMARY. The ADS/ADS:S provides a positive step in measuring clinically significant aspects of anger for treatment planning. It is an easily administered, psychometrically sound instrument that can be used in treatment planning and possibly treatment outcome assessment. The large number of scores produced may be somewhat unwieldy and there is yet to be good predictive validity for it. With these minor limitations the ADS/ADS:S meets all expectations as an anger assessment instrument.

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