

# EMOTIONAL ASSESSMENT SYSTEM

## EAS-5

James P. Choca, Ph.D.

**Introduction.** The Emotional Assessment System (EAS-5) was designed to measure the major disorders of the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; American Psychiatric Association, 2013). It used the criteria from the DSM as the basis for the creation of the items. Each scale has a number of dimensions, in accordance to the number of criteria for the particular disorder in the DSM-5.

EAS-5 was designed to be administered by computer. Each item is read to the examinee as it is presented on the screen. The examinee can enter the response through the keyboard, by the click of a mouse, or by the touch of the screen for equipment that allow that mode of entry. EAS-5 is clinician interactive, allowing the professional to decide what scales to administer, even though it was designed to be administered in its totality. The system is constantly checking on the meaningfulness of the answers being entered, and alerts the examiner the moment that it detects a possible problem.

**Target Population and Audience.** The EAS can be used by clinicians in the mental health fields to help with the diagnosis of men and women over the age of 14. It could be used in many settings including hospitals, clinics, jails and courts, personnel selection centers, and the like. It could be useful in any situation that requires the assessment of emotional problems or stability.

**EAS Presentation.** The item presentation proceeds in an orderly fashion, from one scale to the next. This *nested* presentation is different from the *scrambled* presentation that all other psychiatric questionnaires have used. The advantage of the nested presentation is that it makes it easier for the testing to become a collaborative experience in which the examinee is giving information in meaningful manner. The nested presentation would be problematic, however, if it led to different scores than the more common scrambled presentation. Patrick Cook (2003) did an equivalence study in which a nested and a scrambled version of the EAS were presented to 50 individuals using a counterbalanced design. The study generally found no differences between the two manners of administration.

The EAS program reads the items to the examinee. The program uses both men's and women's voices. The question arose if there would be a difference in the results if all voices were men's voices or women's voices. Moreover, there was the question of whether examinees would respond differently if the voice matched their own gender. Stacey Sparks answered those questions in 2005 by administering the questionnaire with all male voices or all female voices to the same group of 40 community participants. It turned out that the gender of the voice made very little difference.

**EAS Versions:** The EAS was originally created in English for the use of the United States population. A number of versions have been created in other languages. By design, these are not translations. The goal was to develop items that would best measure the different disorders of the DSM and the persons making the adaptations were encouraged to come up with the best items possible, without confining themselves to translating the English item. All of the people creating the different language versions were clinicians and native speakers.

Of the different language versions, the one that has received most attention has been the Spanish version. This instrument, called Sistema Autodiagnóstico de Bandas Emocionales (SABE) has been shown to be fairly equivalent to the English version (Montoya, 2005). Colleagues in Chile (Hellmut Brinkmann, Alejandro Reyes and Rodolfo Álvarez) and Spain (Gabriel González de la Torre and Sara Pérez Martínez), representing four different universities (Universidad de Concepción and Santo Tomás in Chile, Universidad de Cádiz and Universidad Complutense in Spain) are committed to help with the project. I have received a sabbatical starting in January of 2017 to go to both of those countries and coordinate the completion of the project. Additionally there is a German version created by Karla Brennscheidt, a French version (Elie Mangoubi), and a Greek version (Stacy Lekkos).

**Test Taking Aptitude.** EAS-5 has two tiers. Tier A has the test taking aptitude or validity scales. These are the scales that evaluate the answers being entered to assure that the material collected is meaningful. Table 1 offers the different measures that are taken. In contrast to other inventories, the examiner using EAS-5 does not have to wait until the test is completed to learn that the material collected was not useful. Right from the beginning EAS-5 is testing whether the individual has the capacity, the concentration, and the motivation to complete the inventory in a meaningful manner.

The methodology for creating most of the scales in this tier is clear from Table 1. The Extremeness (Ae) Scale was put together by grouping the items that were rarely endorsed. The Positive Image and Negative Image scales resulted from a simulated study in which participants were asked to feign and complete the questionnaire in the way to look their best or to look their worse respectively (Stokesberry, 2004).

Table 1. Tier A: Test taking aptitude scales.

CODE	MEASURE	DESCRIPTION
Ac	Comprehension	Contains the most difficult words of the inventory in order to make sure that the person is able to understand the language used. Being the first scale, it also serves to ensure that the person can use the equipment adequately. The test administration is interrupted if the level of understanding appears to be too low.
Aa	Alertness	Contains simple items with an obvious answer (e.g., 'a penny is a coin') to check on the person's concentration. These items are distributed throughout the inventory, especially towards the end. Answering any of the items in the wrong direction stops the administration and requests that the attendant be called. The examiner can then assess what happened and whether or not the examinee is capable of answering the items in a meaningful manner.
Ad	Defensiveness	This scale is made up of common faults and misbehaviors that most people are willing to admit (e.g., getting angry occasionally) in order to evaluate the level of openness or guardedness with which the person is taking the inventory.
Ai	Inconsistency	A number of moderate severity items are repeated a second time to evaluate whether the person will be consistent with the answers.
Ae	Extremeness	Contains items of high severity that statistically have been endorsed by very few people. This information can be an indication that the individual is attempting to portray himself or herself as dysfunctional.
Ar	Retraction	The system keeps track of the number of times the examinee went back to a previous item in order to change the answer that was given.
At	Reaction Time	The system keeps track of the amount of time taken to answer each item, each scale, and the entire inventory.
Ap	Positive Impression	This measure is the proportion of the endorsed socially desirable items. If the endorsement is higher than usual the score suggests an attempt to place himself or herself in the best possible light.
An	Negative Impression	This measure is the proportion of the endorsed socially undesirable items. If elevated the score suggests an attempt to place himself or herself in the worst possible light.

**Groups of the DSM-5.** DSM-5 contains a multitude of disorders and it would be impossible to include all of the disorders in a questionnaire. To create the EAS-5 the DSM-5 disorders were clustered into six different groups. Each of these groups contains scales to measure more specific disorders. These scales comprise Tier B. At the end of this tier are two scales designed to measure the level of functioning of the individual.

Table 2. Groups of the DSM-5 with the scales of the EAS-5.

GROUP	CODE	SCALE
Personality Disorders	B1	Schizoid
	B2	Avoidant
	B3	Dependent
	B4	Histrionic
	B5	Narcissistic
	B6	Antisocial
	B7	Compulsive
	B8	Schizotypal
	B9	Borderline
Affective Disorders	B10	Anxiety
	B11	Anger
	B12	Depression
	B13	Mania
Pathological Defenses	B14	Somatization
	B15	Eating Disturbance
	B16	Substance Abuse
	B17	Paranoia
Psychic Disorganization	B18	Thought Disturbance
Stress	B19	Current Stress
	B20	Posttraumatic Stress
Cognitive Deficits	B21	Attention Deficit Complaints
	B22	Neurocognitive Complaints
Functional Level	B23	Severity
	B24	Impairment

**Item Development.** With the help of six colleagues (Linda Laatsch, Ph.D., Gerald O’Keefe, Ph.D., Stephen Strack, Ph.D., Richard Greenblatt, Ph.D., Julian Szucko, Ph.D., and Robert Craig, Ph.D.) over 1500 items were created to measure the criteria of the DSM-IV (American Psychiatric Association, 2000). That pool was reduced to approximately 1200 items by taking out similar items, or items that were difficult to understand. The pool was further reduced to approximately 1000 items by working with items for criteria that applied to more than one scale. The questionnaire was then administered to 133 psychiatric and 139 community participants. It was then discovered that 216 items had a correlation of .90 or above with another item. These items were then collapsed or eliminated. It was also discovered that some of the criteria did not have enough items, prompting the addition of 86 more items (work done by Davis, 2001).

The EAS profiles of 284 women and 455 men were used to ensure that the items did not malign one of the two genders unnecessarily (R. Kadkhodaian, 2003). The findings led to the revision of some of the items.

Similarly, the EAS profiles of 175 African American community participants were compared to the profiles of 175 Caucasians. When differential item functioning revealed a number of items that were differently endorsed by the two groups, a panel of six African American clinicians reviewed the items in question and picked only 12 items out of 842 that had the potential to incite emotionality or the potential for differential interpretation (Miles, 2009). An attempt was made to adjust these items in a way that would minimize the problem.

Fifty clinicians rated the EAS items for the severity of the pathology implied, knowing only the scale and the dimension the item was designed to measure. These ratings were anchored on the DSM-IV: the low severity item was defined as too mild to meet the DSM-IV criteria; the middle level of severity was at the level that would just meet criteria, while the high severity rating was used to describe an item that was more severe than the DSM-IV criteria. The overall results showed a good distribution: 28% of the EAS items were identified as low severity, 51% were identified as middle severity, and 21% of the items received a high severity rating (J. Kadkhodaian, 2007).

A second research version of the EAS containing 842 items was administered to 1048 community participants and 800 psychiatric patients. The performance of the items was then evaluated using Item Response Theory (IRT). This evaluation, done with the help of professor Jackie Deuling, made it possible to further reduce the pool to 321 items (Agosta, 2011). This work is being presented at the upcoming convention of the American Psychological Association.

With the publication of the fifth edition of the DSM (American Psychiatric Association, 2013), the EAS items were reviewed and some adjustments were made. Thirty nine more items were created to measure attention deficit concerns and neurocognitive concerns.

**Basic Clinical Scales.** As opposed to Tier A, the tier that contains the test taking aptitude scales, Tier B is made up of the clinical scales. Table 3 presents each scale with the number of items it includes.

Table 3.

Tier B scales and the number of items included. Shared items are those that are also used by at least another scale. The disorders that have more criteria in common with another disorder will have scales with more shared items.

CODE	SCALE	ITEMS	SHARED
B1	Schizoid	11	0
B2	Avoidant	17	2
B3	Dependent	15	0
B4	Histrionic	16	0
B5	Narcissistic	15	1
B6	Antisocial	19	5
B7	Compulsive	14	0
B8	Schizotypal	20	6
B9	Borderline	19	2
B10	Anxiety	21	5
B11	Anger	16	2
B12	Depression	21	3
B13	Mania	17	1
B14	Somatization	15	2
B15	Eating Disturbance	11	0
B16	Substance Abuse	15	0
B17	Paranoia	14	1
B18	Thought Disturbance	14	0
B19	Current	14	2
B20	Posttraumatic	22	9
B21	Attention deficits / hyperactivity Complaints	24	7
B22	Neurocognitive Complaints	19	0
B23	Severity	-	
B24	Impairment	13	1

**Norms.** Figure 1 shows the ethnic composition of the standardizing participants. The data was collected in the Chicago metropolitan area. The Hispanic individuals included in the current norms took the English version of the inventory. Table 4 shows the demographic data of the participants.

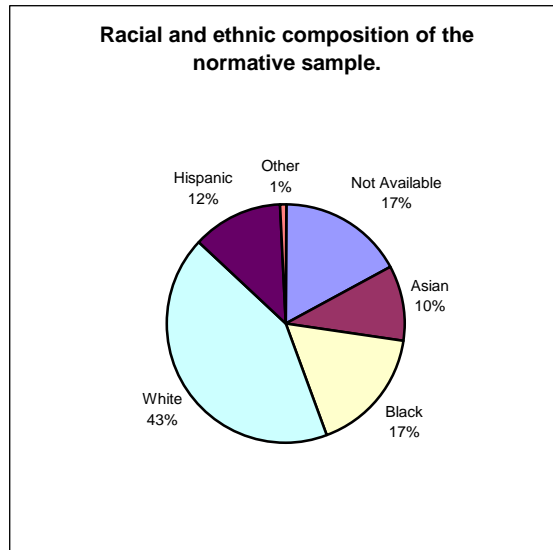
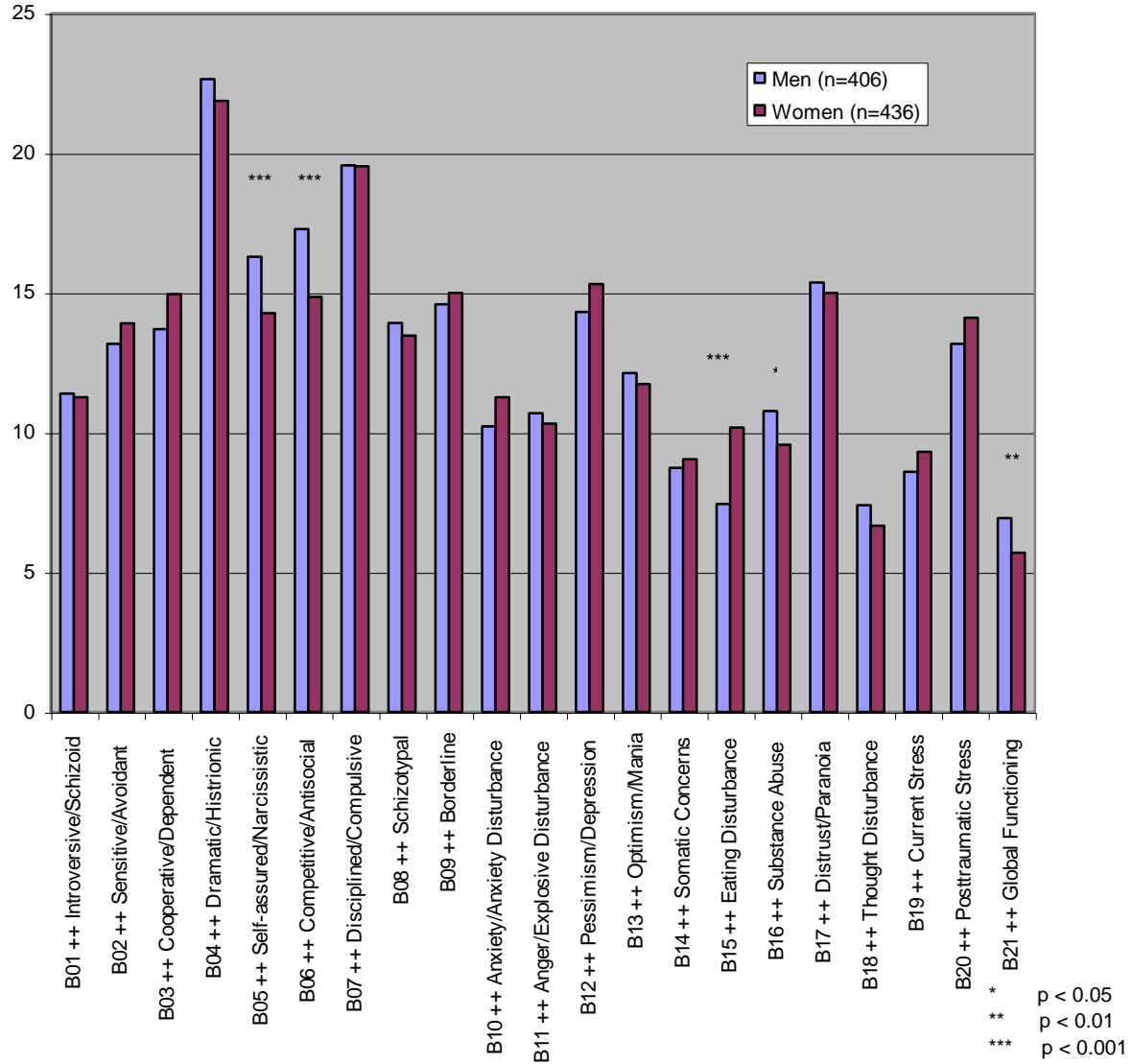


Table 4. Age and years of education of the normative sample.

	AGE		EDUCATION	
	MEAN	S.D.	MEAN	S.D.
Men	29.09	11.76	14.18	2.68
Women	30.71	13.81	14.16	3.09
Community	27.95	10.68	14.99	2.48
Psychiatric	33.13	16.20	12.46	2.99

**Gender Differences.** EAS psychiatric protocols of 406 men and 436 women were examined in order to ensure that the inventory was not unduly elevating one of the scales on account of the person's gender. Gender differences were expected for some of the scales since it was well known that some disorders were more prevalent with one gender than with the other. Figure 2 shows the results of this work. As expected, men tended to elevate the Narcissistic, Antisocial, and Substance Abuse scales more than women. The finding that men suffering from emotional problems tended to see themselves as more dysfunctional could be attributed to the expectation in our culture that men would be the bread winners in the family. Consistent with the prevalence of eating disorders, women elevated the Eating Disorder Scale more than the men. The factor analytical structure of the test was the same for both genders (Myers, 2007; Myers & Choca, 2005).

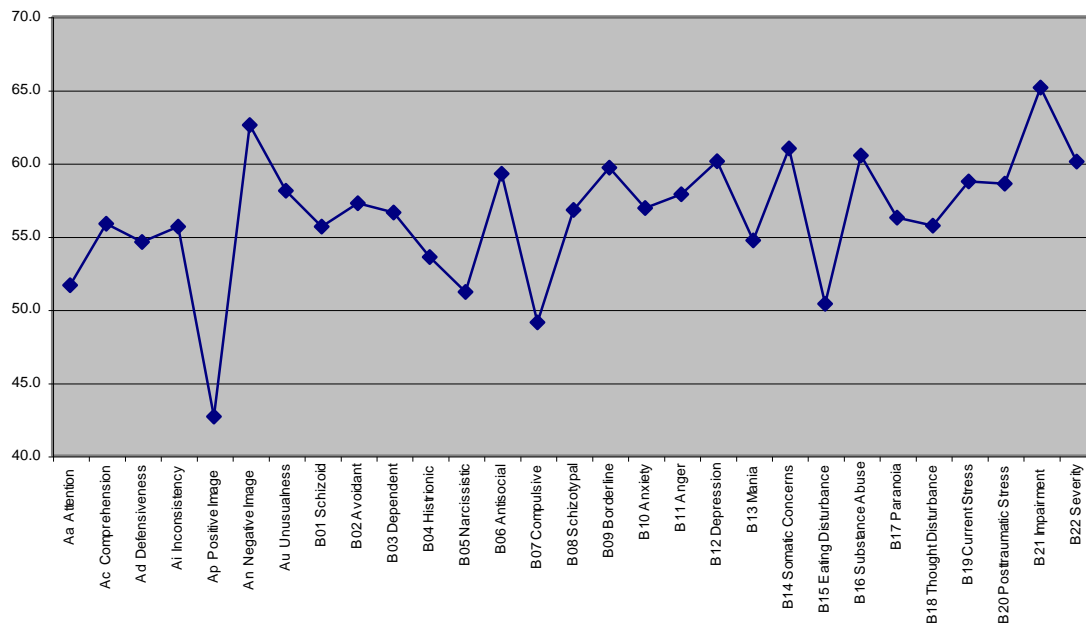
Figure 2. Gender differences across the scales of the EAS.





**Psychiatric Means.** Figure 3 compares the averages of the psychiatric sample to the community norms. The norms use t scores where the average is 50 and the standard deviation is 10. As can be seen, all psychiatric means were above the t score of 50 with the exception of the Positive Image and the Compulsive scales. It is not surprising that psychiatric patients have a lower Positive Image than the non-psychiatric population. Individuals without psychiatric problems typically score higher on compulsive scales.

Figure 3. Psychiatric means in comparison to the community norms of the EAS.



**Internal Consistency.** Table 5 shows the internal consistency of the different scales. As can be seen the great majority of those values are in the excellent range.

Table 5. Internal consistency values.

CODE	SCALE	Standardized alpha
Ac	Comprehension	.92
Ad	Defensiveness	.69
Ai	Inconsistency	.60
Ae	Extremeness	.60
Ap	Positive Image	.84
An	Negative Image	.92
B1	Schizoid	.85
B2	Avoidant	.92
B3	Dependent	.91
B4	Histrionic	.85
B5	Narcissistic	.87
B6	Antisocial	.88
B7	Compulsive	.76
B8	Schizotypal	.91
B9	Borderline	.92
B10	Anxiety	.93
B11	Anger	.90
B12	Depression	.95
B13	Mania	.87
B14	Somatization	.91
B15	Eating Disturbance	.87
B16	Substance Abuse	.94
B17	Paranoia	.91
B18	Thought Disturbance	.89
B19	Current Stress	.87
B20	Posttraumatic Stress	.92
B21	Attention Deficit Complaints	Not available
B22	Neurocognitive Complaints	Not available
B23	Severity	-
B24	Impairment	.91
	Overall Mean	.87
	Mean of Clinical Scales	.89

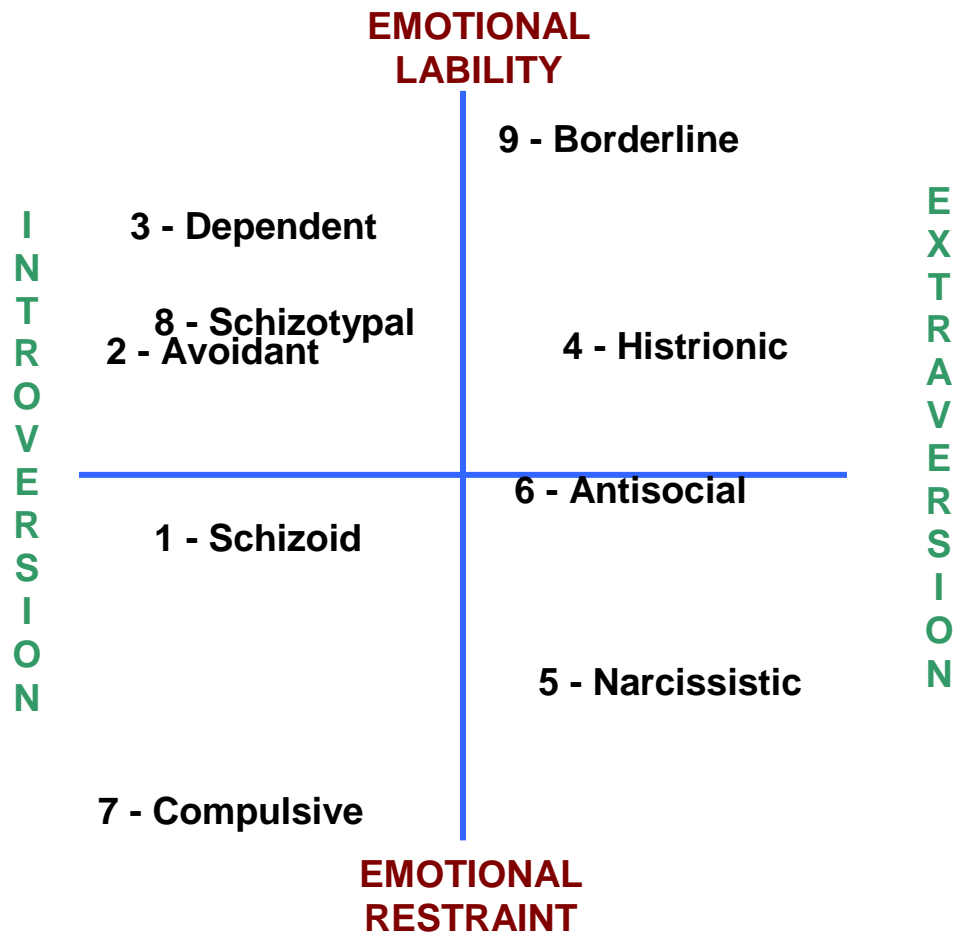
**Temporal Stability.** The test-retest reliability values obtained from 47 participants are offered on Table 6. The two administrations were done a week apart. The low score of the Alertness Scale was due to individuals not repeating the same inattentive mistake on both the times the test was administered. All of the values of the Tier B clinical scales were in the excellent range (Hallongren, 2004; Hallongren & Choca, 2006; Miller, 2007)

Table 6. Temporal stability of the EAS.

CODE	SCALE	Standardized alpha
Ac	Comprehension	.89
Aa	Alertness	.21
Ad	Defensiveness	.76
Ai	Inconsistency	.75
Ae	Extremeness	.74
Ap	Positive Image	.96
An	Negative Image	.95
B1	Schizoid	.96
B2	Avoidant	.96
B3	Dependent	.94
B4	Histrionic	.96
B5	Narcissistic	.95
B6	Antisocial	.95
B7	Compulsive	.90
B8	Schizotypal	.92
B9	Borderline	.94
B10	Anxiety	.92
B11	Anger	.94
B12	Depression	.96
B13	Mania	.83
B14	Somatization	.86
B15	Eating Disturbance	.90
B16	Substance Abuse	.92
B17	Paranoia	.96
B18	Thought Disturbance	.86
B19	Current Stress	.97
B20	Posttraumatic Stress	.96
B21	Attention Deficit Complaints	Not available
B22	Neurocognitive Complaints	Not available
B23	Severity	-
B24	Impairment	.90
	Overall Mean	.88
	Mean of Clinical Scales	.93

**Factor Analytic Structure.** The circular structure of the personality scales of the EAS is shown on Figure 4 (Strack, Choca, & Haddy, 2003). The EAS in its entirety appears to have three major factors in addition to the psychopathology factor that is typically found with similar inventories. These factors have been labeled as Emotive versus Restrained, Introverted versus Extroverted, and Dominant versus Submissive.

Figure 4. Circular structure of the personality scales of the EAS.



**Face Validity.** The face validity of the Anxiety, Depression, Mania, Somatic Concerns, and Thought Disturbance scales were examined by having 57 clinical graduate students assign the relevant EAS items to the DSM-IV disorders. The reliability of the raters' placement was solidly in the good agreement range ( $\kappa = .694$ ) when collapsed across scales. Additionally, when collapsed across scales, correct placement was statistically significant in the hypothesized direction ( $\chi^2 = 23,168.177$ ,  $df = 16$ ,  $p = .000$ ), indicating a reasonable alliance between the EAS items and the DSM disorders (Jasinski, 2007).

**Convergent Validity.** The EAS was administered to individuals who also took another psychiatric inventory in a counterbalanced design. The results of those studies are shown on tables 7 through 11.

Table 7. Correlations of the EAS with the second edition of the Minnesota Multiphasic Personality Inventory (MMPI-2). For this study 73 individuals were administered both instruments (Barreto, 2005).

EAS SCALE	MMPI-2 SCALE	CORRELATION
Antisocial	Psychopathic Deviate	.21
Schizotypal	Schizophrenia	.44**
Anxiety	Psychasthenia	.48**
Depression	Depression	.63**
Mania	Mania	.49**
Somatization	Hypochondriasis	.28*
Paranoia	Paranoia	.28*
Thought Disturbance	Schizophrenia	.55**

Table 8. Correlations of the EAS with the third edition of the Millon Clinical Multiaxial Inventory (MCMI-III). For this study 69 psychiatric patients and 47 community participants were administered both instruments (Hydes, 2002; Hydes & Choca, 2003).

<b>EAS SCALE</b>	<b>MCMI-III SCALE</b>	<b>CORRELATION</b>
B01. Schizoid	1. Schizoid	.65*
B02. Avoidant	2A. Avoidant	.68*
B03. Dependent	3. Dependent	.73*
B04. Histrionic	4. Histrionic	-.20
B05. Narcissistic	5. Narcissistic	.28
B06. Antisocial	6A. Antisocial	.65*
B07. Compulsive	7. Compulsive	.11
B08. Schizotypal	S. Schizotypal	.62*
B09. Borderline	C. Borderline	.75*
B10. Anxiety	A. Anxiety	.66*
B11. Anger	6B. Aggressive	.68*
B11. Anger	6B. Negativistic	.68*
B12. Depression	8B. Self-defeating	.60*

<b>EAS SCALE</b>	<b>MCMI-III SCALE</b>	<b>CORR</b>
B12. Depression	D Dysthymia	.77*
B12. Depression	CC Major Depression	.82*
B12. Depression	2B Depressive	.64*
B2. Mania	N Bipolar/Manic	.59*
B3. Somatization	H Somatoform	.58*
B16. Substance Abuse	T Drug Dependence	.61*
B16. Substance Abuse	D Alcohol Dependence	.30
B17. Paranoia	P Paranoid	.80*
B18. Thought Disorder	SS Thought Disorder	.44*
B20. Posttraumatic Stress	R PTSD	.77*
B17. Paranoid	PP Delusional Disorder	.71*

Table 9. Correlations of relevant EAS scales and scales of the Personality Assessment Inventory (PAI). The data came from 50 participants who took both questionnaires in a counterbalanced manner. Asterisks denote significance at the .01 level (Dunkel, 2003).

<b>EAS SCALE</b>	<b>PAI SCALE</b>	<b>CORRELATION</b>
Ae. Extremeness	Infrequency	.04
Ap. Positive Image	Positive Impression Management	.64*
An. Negative Image	Negative Impression Management	.70*
B06. Antisocial	Antisocial	.67*
B09. Borderline	Borderline	.66*
B09. Borderline	Suicidal Ideation	.43*
B10. Anxiety	Anxiety	.58*
B10. Anxiety	Anxiety Related Disorders	.43*
B11. Anger	Aggression	.81*
B12. Depression	Depression	.71*
B12. Depression	Suicidal Ideation	.42*
B13. Mania	Mania	.56*
B14. Somatization	Somatic Complaints	.38
B16. Substance Abuse	Alcohol Problems	.70*
B16. Substance Abuse	Drug Problems	.72*
B17. Paranoia	Paranoia	.82*
B18. Thought Disturbance	Schizophrenia	.57*



Table 10. Correlations of relevant EAS scales and scales of the Millon Adolescent Clinical Inventory (MACI). The data comes from the evaluation of 99 adolescents (78 males and 21 females) at a juvenile detention center (Leonard, 2003; Leonard, Choca, & Gloss, 2004).

<b>EAS SCALES</b>	<b>MACI SCALES</b>	<b>Pearson r</b>
B01. Schizoid	1. Introversive	.62*
B02. Avoidant	2A. Inhibited	.55*
B03. Dependent	3. Submissive	.04
B03. Dependent	8B. Self-Demeaning	.32*
B04. Histrionic	4. Dramatizing	.00
B05. Narcissistic	5. Egotistic	.12
B06. Antisocial	6A. Unruly	.68*
B06. Antisocial	CC. Delinquent Predisposition	.53*
B07. Compulsive	7. Conformina	.46*
B09. Borderline	9. Borderline Tendency	.70*
B09. Borderline	GG. Suicidal Tendency	.74*
B10. Anxiety	EE. Anxious Feelings	-.04
B11. Anger	6B. Forceful	.51*
B11. Anger	8A. Oppositional	.28*
B12. Depression	2B. Doleful	.54*
B12. Depression	FF. Depressive Affect	.59*
B12. Depression	GG. Suicidal Tendency	.76*
B15. Eating Disorder	AA. Eating Dysfunctions	.59*
B16. Substance Abuse	BB. Substance Abuse Proneness	.73*

Table 11. Correlations of relevant EAS scales and scales of the Personality Adjective Checklist (PACL). The data comes from the evaluation of 50 community participants who were administered both questionnaires in a counterbalanced manner (Macino, 2003).

EAS Scales	PACL Scales	Correlations
B01. Schizoid	1. Introversive	.37*
B02. Avoidant	2. Inhibited	.61*
B03. Dependent	3. Cooperative	.09
B04. Histrionic	4. Sociable	.29
B05. Narcissistic	5. Confident	.39*
B06. Antisocial	6. Forceful	.35*
B07. Compulsive	7. Respectful	.46*

**Clinical Use:** The EAS has been shown to be a useful instrument in measuring depression in patients with neurological diseases (Mitchell, 2005; Mitchell & Choca, 2006). Robert Craig reported the following operating characteristics of the Substance Abuse Scale: Sensitivity = .93, Specificity = .74, Positive Predictive Power = .90. The EAS was used to uncover different clusters or subgroups of substance abusing women (Batchelor, 2003). The validity of the Thought Disturbance and Paranoid scales has also been supported (Brooks, 2002; Swier-Vosnos, 2006).

**Cultural Differences.** The EAS has been used to study cultural differences with Chinese individuals (Chan, 2002a, 2002b) and Indian people (Sameja, 2005).

## REFERENCES

- Agosta, A. (2011). *The development of the Emotional Assessment System – III*. (Doctoral dissertation). Roosevelt University, Chicago.
- American Psychiatric Association (2000). *Diagnostic and Statistical Manual of Mental Disorders* (4<sup>th</sup> Edition). Washington, DC: Author.
- American Psychiatric Association (2013). *Diagnostic and Statistical Manual of Mental Disorders* (5<sup>th</sup> Edition). Washington, DC: Author.
- Barreto, D. (2005). *Convergent validity of the MMPI-2 and the Emotional Assessment System (EAS)*. (Unpublished master's thesis). Roosevelt University, Chicago.
- Batchelor, M. S. (2003). A study of female substance abusers on a DSM-IV based psychological questionnaire. (Unpublished master's thesis). Roosevelt University, Chicago.
- Brooks, A. (2002). *The validity of the Thought Disturbance and Paranoid scales of the Emotional Assessment System*. (Unpublished master's thesis). Roosevelt University, Chicago.
- Chan, E. (2002a). *Performance differences between low-acculturated Chinese and Caucasian-American students on the Emotional Assessment System*. (Unpublished master's thesis). Roosevelt University, Chicago.
- Chan, E., Choca, J., & Nelson, D. (2002b, August). *Performance Differences Between Low-Acculturated Chinese and Caucasian-American Students on the Emotional Assessment System*. Paper presented at the annual convention of the Asian American Psychological Association, Chicago, IL.
- Choca, J. P. (2000, August). Overview of the Emotional Assessment System. In J. Choca (Chair), *Developing a DSM-IV psychological inventory—The Emotional Assessment System*. Symposium conducted at the annual convention of the American Psychological Association, Washington, DC.
- Choca, J. P. (2003, August). Overview of the Emotional Assessment System (EAS). In J. Choca (Chair), *Developments with the Emotional Assessment System—An adaptive DSM-IV inventory*. Symposium conducted at the annual convention of the American Psychological Association, Toronto, Ontario, Canada.
- Choca, J. P., & Laatsch, L. (1997, August). *Developing a test for the year 2000: The Emotional Assessment System*. Paper presented at the annual convention of the American Psychological Association, Chicago, IL.
- Choca, J. P., Laatsch, L., O'Keefe, G., Strack, S., Craig, R., Greenblatt, R., & Szucko, J. (2005). *Manual for the Emotional Assessment System*. Chicago: Roosevelt University.
- Cook, P. K. (2003). *An examination of scrambled versus nested item arrangement patterns within the Emotional Assessment System*. (Unpublished master's thesis). Roosevelt University, Chicago.

- Davis, B. (2001). *Item analysis of the Emotional Assessment System (EAS): An instrument to assess personality and psychopathology*. (Unpublished doctoral dissertation). Loyola University, Chicago.
- Dunkel, T. M. (2005). *Concurrent validation of a DSM-IV-based diagnostic assessment: The Emotional Assessment System*. (Unpublished master's thesis). Roosevelt University, Chicago.
- Dunkel, T. M., Choca, J. P., & Kvaal, S. A. (2008, March). *Concurrent validation of a DSM-IV-based diagnostic assessment: The Emotional Assessment System*. Poster presented at the annual meeting of the Society for Personality Assessment, New Orleans.
- Hallongren, R. A. (2004). *Temporal stability of the Emotional Assessment System*. (Unpublished doctoral dissertation). Roosevelt University, Chicago.
- Hallongren, R. A., & Choca, J. P. (2006, August). *Temporal stability of the Emotional Assessment System*. Paper presented at the annual convention of the American Psychological Association, New Orleans, LA.
- Hydes, N. (2002). *Convergent validity between the MCMI-III and the Emotional Assessment System (EAS)*. (Unpublished master's thesis). Roosevelt University, Chicago.
- Hydes, N., & Choca, J. P. (2003, August). *Convergent validity of the MCMI-III and the Emotional Assessment System (EAS)*. Poster presented at the annual convention of the American Psychological Association, Toronto, Ontario, Canada.
- Jasinski, N. (2007). *Face Validity of the Anxiety, Depression, Mania, Somatic Concerns, and Thought Disturbance Scales of the Emotional Assessment System*. (Unpublished master's thesis). Roosevelt University, Chicago.
- Kadkhodaian, R. H. (2001). *Gender Bias and the Emotional Assessment System*. (Unpublished master's thesis). Roosevelt University, Chicago.
- Kadkhodaian, J. M. (2007). *Severity ratings and the Emotional Assessment System*. (Unpublished master's thesis). Roosevelt University, Chicago.
- Leonard, J. (2003). *The Emotional Assessment System and Millon Adolescent Clinical Inventory with juvenile delinquents: A comparison*. (Unpublished doctoral dissertation). Roosevelt University, Chicago.
- Leonard, J., Choca, J. P., & Gloss, B. (2004, March). *The Emotional Assessment System and Millon Adolescent Clinical Inventory with juvenile delinquents: A Comparison*. Paper presented at the annual meeting of the Society for Personality Assessment, Miami, FL.
- Macino, L. B. (2003). *Convergent validity between the basic personality trait scales of the Emotional Assessment System and the Personality Adjective Check List*. (Unpublished master's thesis). Roosevelt University, Chicago.

Miles, B. (2009). *Understanding Differential Item Functioning: A judgmental review of items on the Emotional Assessment System*. (Unpublished master's thesis). Roosevelt University, Chicago.

Miller, F. (2007). *Temporal Stability of the Emotional Assessment System (EAS)*. (Unpublished master's thesis). Roosevelt University, Chicago.

Mitchell, K. L. (2005). *Assessing depression in patients with neurologic disease: Concurrent validation and cluster analysis of the Emotional Assessment System*. (Unpublished doctoral dissertation). Roosevelt University, Chicago.

Mitchell, K. L., & Choca, J. P. (2006, August). *Computerized assessment of neurologic disease: The Emotional Assessment System*. Paper presented at the annual convention of the American Psychological Association, New Orleans, LA.

Montoya, E. (2005). *Equivalence of the Emotional Assessment System and its Spanish version, Sistema Asesor de Valores Emocionales*. (Unpublished doctoral dissertation). Roosevelt University, Chicago.

Myers, M. R. (2007). *Scale level and structural gender differences of the Emotional Assessment System*. (Unpublished master's thesis). Roosevelt University, Chicago.

Myers, M., & Choca, J. P. (2005, August). *Gender differences on items derived from the DSM-IV*. Paper presented at the annual convention of the American Psychological Association, Washington, DC.

Jasinski, N. E., Choca, J. P., & Ferrell, K. R. (2007, August). *Face validity of five scales of the Emotional Assessment System*. Paper presented at the annual convention of the American Psychological Association, San Francisco, CA.

Sameja, S. (2005). *Cultural differences between East Indian adults and non-Indian adults on the EAS*. (Unpublished master's thesis). Roosevelt University, Chicago.

Sparks, S. A. (2005). *Effects of voice gender on responses given to the Emotional Assessment System*. (Unpublished master's thesis). Roosevelt University, Chicago.

Stokesberry, A. (2004). *Detection of feigning through use of the Negative/Positive Image scales on the Emotional Assessment System*. (Unpublished master's thesis). Roosevelt University, Chicago.

Strack, S. N., Choca, J. P., & Haddy, C. (2003, May). *Circular Structure of Emotional Assessment System (EAS) Personality Disorder Scales*. Paper presented at the Sixth Annual Meeting of the Society for Interpersonal Theory and Research, Vancouver, BC, Canada.

Swier-Vosnos, A. (2006). *Validation of the Thought Disturbance Scale of the Emotional Assessment System*. (Unpublished master's thesis). Roosevelt University, Chicago.

Varn, M. E., Choca, J. P., & Kvaal, S. (2006, August). *A DSM-IV-based diagnostic instrument: The Emotional Assessment System (EAS)*. Paper presented at the annual convention of the American Psychological Association, New Orleans, LA.