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## Cluster-Derived Groupings of the Behavior Assessment System for Children Among Male Juvenile Offenders

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**ABSTRACT** Examined the cluster-derived typologies of males in a juvenile offender sample. Adolescent males, age 12-17, in a regional youth detention center were given the Behavior Assessment System for Children-Self Report-Adolescent (BASC-SRP-A; C. Reynolds & R. Kamphaus, 1992) and the Millon Adolescent Clinical Inventory (MACI; T. Millon, 1993). Hierarchical cluster analysis was used to determine cluster membership across the scales of the BASC-SRP-A, and these clusters were compared to cluster groupings across the scales of the MACI. Clusters were then compared to the severity of youth offense history. A five-cluster solution was developed with only one cluster suggesting severe problem

behaviors. However, all of the BASC-SRP-A clusters seemed to endorse more symptomatic problem behaviors on the MACI. Possible explanations for these findings are discussed, including the under-reporting or over-reporting of different instruments in certain populations. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2004 by The Haworth Press, Inc. All rights reserved.]

**KEYWORDS** Juvenile offenders, behavioral typologies, cluster analysis

The Behavior Assessment System for Children (BASC) was developed to evaluate the behavior and self-perceptions of children aged 4-18 years (Reynolds & Kamphaus, 1992). This multi-method, multi-dimensional instrument is comprised of five different report forms, measuring clinical as well as adaptive behavior. In their review of the BASC, Sandoval and Echandia (1994) noted that items contained in all components of the instrument are derived from reviews of relevant literature, empirical measures, and collected clinical experience. The BASC is comprehensive in nature and reduces problems associated with integrating data from multiple instruments that have similar scales but are operationalized differently (Flanagan, 1995).

The BASC evaluates personality and behavioral problems and levels of emotional disturbance, and is one of the few instruments that identify positive, or adaptive characteristics. Identifying these strengths may facilitate the therapeutic process. Additionally, the BASC aids in the differential diagnosis and educational classification for children with a range of emotional and behavioral disorders, thereby increasing the prospects for successful treatment plans (Reynolds & Kamphaus, 1992). While the BASC does allow for information from multiple sources to be compared regarding one individual, the present study utilized the BASC Self-Report of Personality (BASC-SRP) to examine cluster-derived typologies of males in a juvenile offender sample. The adolescent form (BASC-SRP-A; age 12-18) used in the present study consists of statements using a True-False response set yielding 14 different scales and four broad composite scores.

Of the 14 scales, 10 are Clinical scales measuring maladjustment with high scores representing negative or undesirable characteristics. Included here are: *Anxiety, Attitude to School, Attitude to Teachers, Atypicality, Depression, Locus of Control, Sensation Seeking, Sense of Inadequacy, Social Stress, and Somatization*. The remaining four scales are included in the Adaptive scales measuring positive adjustment with high scores representing positive or desirable characteristics. These scales include: *Interpersonal Relations, Relations with Parents, Self-Esteem, and Self-Reliance*. The composite scales include *Clinical Maladjustment*, which is a broad index of distress reflecting clinical,

internalizing problems, *School Maladjustment*, which is a broad measure of a child's adaptation to school, and *Personal Adjustment*, which is a composite of the adaptive scales and provides information regarding interpersonal relationships, self-acceptance, identity development, and ego strength. The final composite score, *Emotional Symptoms Index*, is the instrument's most global indicator of serious emotional disturbance, particularly with regard to internalized disorders.

The literature is replete with examples of behavioral clustering of children both from clinical as well as non-clinical samples. By using the normative data for the BASC Teacher Rating Scales for Children (BASC-TRS-C), seven clusters were identified for elementary school children currently attending both public and private schools (Huberty, DiStefano, & Kamphaus, 1997; Kamphaus, Huberty, DiStefano, & Petoskey, 1997). Cluster 1: *Well Adapted* identified elevations on the adaptive scales and the absence of behavior problems. Cluster 2: *Average* identified few deviations from a normative mean. Cluster 3: *Disruptive Behavior Disorder* identified mean scores on externalizing scales that met or surpassed those for samples of children with conduct disorder, behavior disorder, and ADHD. Cluster 4: *Learning Disorder* members showed significant deficits in adaptive skills and closely resembled the sample of children with diagnosed learning disabilities. Cluster 5: *Physical Complaints/Worry* identified internalizing problems of a mild nature. Cluster 6: *Severe Psychopathology* identified a diversity of problems including psychotic thought processes and impaired adaptive skills. Cluster 7: *Mildly Disruptive* was marked by mild scale elevations for Aggression and Hyperactivity with normal adaptive skills.

Kamphaus, Petoskey, Cody, Rowe, Huberty, and Reynolds (1999) used the normative data from the BASC Parent Rating Scales for Children (BASC-PRS-C) to identify nine clusters for elementary school children currently attending both public and private schools. Cluster 1: *Adapted* exhibited some elevations on the adaptive scales and no elevations on clinical scales. Cluster 2: *Physical Complaints/Worry* indicated slight elevations on scales reflecting somatic complaints and anxiety. Cluster 3: *Average* was identified as having little deviation from a normative mean across all scales. Cluster 4: *Well-adapted* identified significant elevations on adaptive scales and the absence of behavior problems. Cluster 5: *Minimal Problems* exhibited adaptive scale scores in the normative range with a few clinical scale scores below the normative mean. Cluster 6: *Attention Problems* indicated elevations on the Attention Problems scale along with poor adaptive ratings. Cluster 7: *Internalizing* was noted for significant problems on the scales of Depression, Anxiety, and Withdrawal. Cluster 8: *General Psychopathology-Severe* exhibited significant elevations with a wide range of behaviors and low adaptive skills. Cluster 9: *Disruptive Behavior Problems* indicated significant problems with deviant behaviors and low levels of adaptive behaviors.

In an attempt to identify clinically relevant dimensions of children's problem behavior, Curry and Thompson (1984) applied cluster analysis to data obtained from the Missouri Children's Behavior Checklist (MCBC; Sines, Pauker, Sines, & Owen, 1969) with children who had been referred to a child psychiatry clinic. Mothers of the referred sample completed this checklist, and seven clusters were identified with varying degrees of aggressive and non-aggressive behavior. In a study utilizing self-report measures, Chung and Elias (1996) studied the relationship of varying degrees of adolescent problem behaviors with self-efficacy, social competence, and life events. In their analysis, four clusters were identified ranging from low-risk to high-risk, with low-risk subgroups endorsing more positive self-efficacy, more active participation in extracurricular activities, and more positive life events.

In a study using the Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 1990) and the Child Behavior Checklist (CBCL; Achenbach, 1991), clinical characteristics of adolescent boys and girls with serious emotional disturbances were identified through a cluster analysis of the data (Liao, Manteuffel, Paulic, & Sondheimer, 2001). The authors wanted to determine if adolescents entering systems of care funded by a Center for Mental Health Services could be grouped into identifiable patterns based on functional and behavioral characteristics. Three clusters for both boys and girls were found; *Minimal Symptoms/Mild Impairment*, *Moderate Symptoms/Moderate Impairment*, and *High Symptoms/High Impairment*. Frankel, Hanna, Cantwell, Shekim, and Ornitz (1992) performed a cluster analysis using the Achenbach Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983) with 6-11 year-old males who were classified as having varying degrees of behavior disorders. In the four clusters that emerged, two were determined to be behavior problem-free, due to the fact that all scale scores failed to exceed the cutoff score for internalizing and externalizing behaviors. One cluster was classified as "pure externalizing," and another cluster was determined to be "mixed internalizing and externalizing." In one piece of a comprehensive study with disturbed children, boys aged 12-16 formed six distinct clusters from the Child Behavior Profile (CBP; Achenbach, 1978; Achenbach & Edelbrock, 1979). These clusters were identified as *Schizoid*, *Uncommunicative*, *Immature-Aggressive*, *Hyperactive*, *Uncommunicative-Delinquent*, and *Delinquent* (Edelbrock & Achenbach, 1980).

Behavioral typologies emerging within a clinical sample such as male juvenile offenders may aid clinicians in their assessments of and treatment formulations for such clients. This is important since there is a significant amount of variability in this heterogenous population. Calhoun, Glaser, and Bartolomucci (1999), when discussing implications for counseling the juvenile offender, articulate this fact by stating, "those who work with these youth never cease to be amazed at the uniqueness of individuals, situations, and case presentations that so often fly in the face of the popular stereotypical perception of them as juvenile delinquents." Therefore, the construction of typologies anticipates

variability in the manifestation of problem behaviors, aiding in the treatment selection approach.

The purpose of the present study in examining the BASC-SRP-A is three-fold. Primarily, the authors want to determine what types of behavioral and personality typologies will emerge from a male juvenile offender sample completing the BASC-SRP-A. Secondly, after obtaining these cluster-derived groupings, they will be cross-validated with clusters derived from certain scales of the Millon Adolescent Clinical Inventory (MACI; Millon, 1993) for the same sample. Such cross-validation is important because the instruments were differentially normed. The MACI utilized a purely clinical reference group, and the BASC is empirically and clinically derived, normed on non-clinical as well as clinical populations. Whereas the BASC is used primarily in educational settings, the MACI is used more in clinical/correctional settings. Finally, the authors cross-validate the cluster-derived data with youth offense history.

## **METHOD**

### ***Participants***

Current male adolescent detainees ( $N = 103$ ) at a short-term regional youth detention center (RYDC) comprised the sample for the current study. The RYDC is located in a small southeastern city with a population of approximately 100,000. This particular RYDC houses only male juvenile offenders and is a holding facility for those awaiting trial in the Juvenile Court System. The in-house population ranges from 10-30 youths at any given time, with the average stay around 1-2 months. The sample was composed of 60.2% African American, 35% White, and 2.9% Other. There was a mean age of 15.43 years, with a standard deviation of 1.05, and a range of 12 to 17.

Informed consent and assent were obtained from the parent/guardians and adolescents, respectively. Participants were asked to complete the BASC-SRP (Reynolds & Kamphaus, 1992) and the MACI (Millon, 1993) during the same one-week period, completing each instrument on separate days. The offense history of each participant was surveyed and recorded, with offenses ranging from status offenses, crimes against persons, and crimes against property.

### ***Instruments***

*Behavior Assessment System for Children-Self Report Form-Adolescent (BASC-SRP-A; Reynolds & Kamphaus, 1992).* The BASC is a multi-method multidimensional approach to evaluate the behavior and self-perceptions of children aged 4-18. The BASC measures several aspects of the youth's behavior, from the perspective of the parent, the teacher, and the youth themselves.

The self-report of personality-adolescent (BASC-SRP-A) was used in the present study. The instrument was standardized on a large national sample that is representative of the general population of U.S. children with regard to gender, race/ethnicity, and clinical or special education classification. There are 186 questions in the format of 'True-False' loading into different clinical scales as well as scales of adaptive functioning, for pinpointing specific syndromes or strengths. Also included are composite scales which are helpful for summarizing responses and making broad conclusions regarding different types of adaptive and maladaptive personality tendencies. In addition, validity scales are included: *F* index indicating the tendency to be unusually negative, the *L* ("fake good") index, and the *V* index used to detect invalid responses for reasons related to poor reading comprehension, failure to follow directions, or poor contact with reality.

Reliability of the BASC-SRP-A scales is good as indicated by a variety of methods (Kamphaus & Frick, 2002). Median internal consistency coefficients are generally in the .80s for both the general and clinical samples. Test-retest coefficients taken at a 1-month interval are generally in the .70s (Reynolds & Kamphaus, 1992).

*Millon Adolescent Clinical Inventory (MACI; Millon, 1993)*. The MACI is a 165-item, 31 scale, theoretically based self-report inventory designed specifically for assessing adolescent personality characteristics and clinical syndromes. The instrument has been developed in consultation with mental health professionals working with adolescents, thus its use is targeted specifically for use in clinical, residential, and correctional settings. The MACI may be used for evaluating, diagnosing, and formulating treatment plans for troubled adolescents or as an outcome measure. Scales of the MACI include 12 Personality Patterns, 8 Expressed Concerns, 7 Clinical Syndromes, as well as 3 Modifying Indices that measure response styles and test-taking attitudes. Millon (1993) reports adequate test-retest reliability and internal consistency for each scale. Test-retest reliability coefficients were reported to be above .75 for all MACI scales.

### ***Analysis***

The scores of 10 clinical and four adaptive scales of the BASC-SRP-A were subjected to a hierarchical cluster analysis using the Ward's clustering method (1963), which is widely used in studies employing the cluster analytic method (Borgen & Barnett, 1987). A five-cluster solution was chosen to maintain within cluster homogeneity and between cluster heterogeneity. Cluster group membership was determined for each participant with these groupings entered into a series of One-Way ANOVAs, using the scales of the BASC-SRP-A and the MACI as dependent variables. Tukey Post Hoc t-tests were conducted to determine which cluster groups were statistically different along each scale.

Additionally, cluster groupings were entered into a Chi-Square analysis with the offense history to determine if any significant relationships exist.

## **RESULTS**

Since the sample consisted of male juvenile offenders, all currently residing in a detained setting, one would expect to find similar typologies from a behavioral self-report. Using the rationale and methodology previously described, the authors determined that a five-cluster solution was most appropriate, and each will be described here. Of the BASC-SRP-A scales, both clinical and adaptive scales were used as the basis for the cluster analysis. In listing individual scales, a scale is underlined if it fell within the “at-risk” range as determined by the BASC manual. Cluster means, standard deviations, and ANOVA results across BASC-SRP-A and MACI scales are reported in Tables 1 and 2, respectively. Cluster means across the BASC-SRP-A scales are displayed graphically in Figures 1-5.

### ***Cluster 1: Normal (N = 23)***

This cluster is characterized by average scores along all clinical and adaptive scales. The lowest scale scores were *Attitude to Teacher*, *Attitude to School*, and *Depression*. This cluster is indicative of youth experiencing few, if any, problems with teachers, school, or regulation of emotion. They may be dealing with what could be characterized as average problems in adolescence with no marked disturbances. The adaptive scales falling within the average range indicate average relations with parents, peers, positive self-esteem, and self-reliance. In ANOVAs with the MACI scales, this cluster revealed elevations falling in the clinical concern range for *Doleful*, *Unruly*, *Oppositional*, *Social Insensitivity*, *Family Discord*, *Delinquent Predisposition*, *Impulsivity*, and *Depressive Affect*.

### ***Cluster 2: Well-Adapted (N = 30)***

This cluster scored in the average range for all scales, with elevations in the adaptive scales over the clinical scales. Several internalizing scales were extremely low for the members of this cluster, namely *Social Stress* and *Anxiety*. The highest adaptive scale score was *Self-Esteem*, indicative of a positive view of self. This cluster indicates having positive relations with parents, with peers, and being moderately self-reliant. ANOVAs with the MACI indicate the following scales falling in the clinical concern range: *Dramatizing*, *Unruly*, *Social Insensitivity*, *Family Discord*, and *Delinquent Predisposition*.

□ **Table 1: Means, Standard Deviations, and Between-Cluster ANOVA Results for the Five Emerged Clusters Across BASC-SRP-A Scales**

BASC-SRP-A scale	Cluster 1 (n = 23)		Cluster 2 (n = 30)		Cluster 3 (n = 22)		Cluster 4 (n = 12)		Cluster 5 (n = 16)		F (4, 98)
	M	SD	M	SD	M	SD	M	SD	M	SD	
Attitude to School	44.13 <sup>a</sup>	4.88	44.60 <sup>a</sup>	7.90	57.13 <sup>b</sup>	8.98	50.83 <sup>ab</sup>	9.99	55.06 <sup>b</sup>	12.26	10.57**
Attitude to Teacher	47.43 <sup>a</sup>	6.35	47.87 <sup>a</sup>	8.36	59.36 <sup>b</sup>	8.53	51.67 <sup>ab</sup>	8.40	59.50 <sup>b</sup>	7.61	12.33**
Sensation Seeking	54.09 <sup>a</sup>	9.98	51.70 <sup>a</sup>	6.08	58.23 <sup>b</sup>	7.96	50.33 <sup>ab</sup>	6.88	57.13 <sup>ab</sup>	9.59	3.24*
Atypicality	53.39 <sup>ab</sup>	8.43	42.33 <sup>b</sup>	3.68	55.59 <sup>ac</sup>	6.77	46.42 <sup>b</sup>	6.42	61.75 <sup>c</sup>	9.48	25.68**
Locus of Control	49.74 <sup>a</sup>	7.23	44.70 <sup>b</sup>	5.61	55.86 <sup>c</sup>	5.59	46.50 <sup>ab</sup>	6.11	64.25 <sup>c</sup>	6.28	31.46**
Somatization	48.83 <sup>ab</sup>	5.37	44.60 <sup>a</sup>	5.81	55.14 <sup>bc</sup>	9.85	46.33 <sup>a</sup>	5.82	57.44 <sup>c</sup>	11.51	10.33**
Social Stress	50.04 <sup>a</sup>	6.74	40.90 <sup>a</sup>	2.93	49.45 <sup>b</sup>	5.90	42.75 <sup>a</sup>	4.63	61.56 <sup>c</sup>	7.60	39.16**
Anxiety	51.04 <sup>ab</sup>	7.70	39.10 <sup>b</sup>	4.50	48.41 <sup>a</sup>	6.16	41.08 <sup>b</sup>	3.87	55.38 <sup>c</sup>	6.24	27.15**
Depression	47.43 <sup>ab</sup>	4.69	44.60 <sup>a</sup>	2.19	58.23 <sup>b</sup>	5.44	49.50 <sup>b</sup>	4.58	67.38 <sup>c</sup>	9.16	61.18**
Sense of Inadequacy	48.91 <sup>a</sup>	5.71	42.80 <sup>b</sup>	4.41	56.73 <sup>c</sup>	7.45	46.17 <sup>ab</sup>	4.86	61.19 <sup>c</sup>	7.10	33.52**
Relations with Parents	50.13 <sup>a</sup>	8.66	55.10 <sup>a</sup>	4.26	49.09 <sup>b</sup>	7.03	40.92 <sup>ab</sup>	8.83	25.75 <sup>c</sup>	7.05	50.50**
Interpersonal Relations	54.26 <sup>ab</sup>	4.18	54.97 <sup>a</sup>	3.36	48.95 <sup>b</sup>	8.05	48.33 <sup>b</sup>	5.80	38.00 <sup>c</sup>	12.18	18.47**
Self-Esteem	53.65 <sup>ab</sup>	5.52	57.33 <sup>a</sup>	1.52	50.36 <sup>bc</sup>	7.70	53.33 <sup>ab</sup>	6.99	45.75 <sup>c</sup>	9.74	9.71**
Self-Reliance	53.09 <sup>a</sup>	4.57	53.77 <sup>a</sup>	5.37	45.82 <sup>b</sup>	10.24	34.00 <sup>c</sup>	4.67	38.94 <sup>bc</sup>	12.65	21.21**

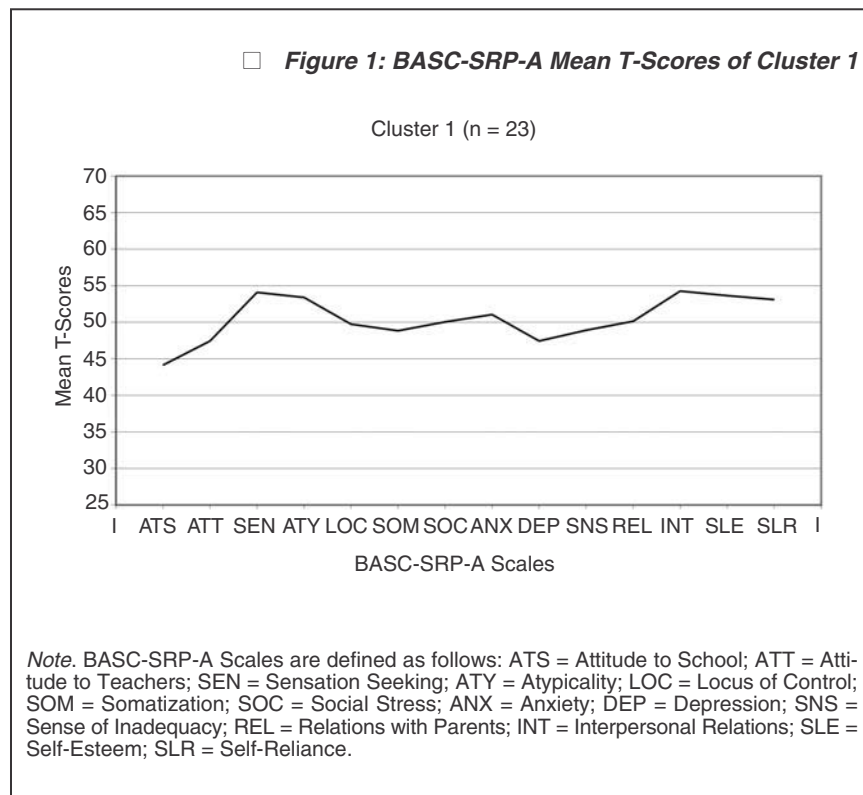
Note. Means in the same row without a common subscript are statistically significantly different at the .05 level of significance according to a Tukey Honestly Significant Difference post-hoc test. BASC-SRP-A = Behavior Assessment System for Children–Self-Report–Adolescent. \* $p < .05$ . \*\* $p < .001$ .



□ **Table 2: Means, Standard Deviations, and Between-Cluster ANOVA Results  
or the Five Emerged Clusters Across MACI Scales**

MACI scale	Cluster 1 (n = 23)		Cluster 2 (n = 30)		Cluster 3 (n = 22)		Cluster 4 (n = 12)		Cluster 5 (n = 16)		F(4, 98)
	M	SD	M	SD	M	SD	M	SD	M	SD	
Introversive	52.22 <sup>ab</sup>	15.56	38.80 <sup>a</sup>	18.04	52.23 <sup>ab</sup>	18.61	49.75 <sup>ab</sup>	14.19	64.44 <sup>b</sup>	20.15	5.91 <sup>**</sup>
Inhibited	48.96 <sup>ab</sup>	22.47	40.47 <sup>a</sup>	21.31	46.41 <sup>ab</sup>	18.76	49.92 <sup>ab</sup>	19.03	62.13 <sup>b</sup>	23.20	2.81 <sup>*</sup>
Doleful	67.61 <sup>ac</sup>	17.88	40.20 <sup>b</sup>	21.49	63.91 <sup>ac</sup>	23.87	48.42 <sup>ab</sup>	27.00	82.06 <sup>c</sup>	8.84	13.37 <sup>**</sup>
Submissive	59.22 <sup>ac</sup>	11.66	54.40 <sup>ab</sup>	13.10	46.82 <sup>bc</sup>	11.17	53.83 <sup>abc</sup>	8.97	42.44 <sup>c</sup>	14.98	5.72 <sup>**</sup>
Dramatizing	57.83 <sup>a</sup>	13.36	63.03 <sup>ab</sup>	14.24	55.50 <sup>bc</sup>	13.49	59.25 <sup>abc</sup>	12.36	41.06 <sup>c</sup>	15.39	6.81 <sup>**</sup>
Egotistic	54.96 <sup>a</sup>	11.01	57.73 <sup>a</sup>	11.38	49.86 <sup>a</sup>	14.94	55.42 <sup>a</sup>	11.84	37.38 <sup>b</sup>	13.14	7.99 <sup>**</sup>
Unruly	68.43 <sup>a</sup>	16.40	66.23 <sup>a</sup>	17.63	75.00 <sup>a</sup>	17.17	64.17 <sup>a</sup>	16.10	68.63 <sup>a</sup>	14.52	1.18
Forceful	40.04 <sup>a</sup>	19.88	39.63 <sup>a</sup>	21.17	56.55 <sup>a</sup>	22.17	41.00 <sup>a</sup>	20.50	60.50 <sup>a</sup>	19.98	4.65 <sup>*</sup>
Conforming	49.57 <sup>ab</sup>	14.98	56.13 <sup>a</sup>	13.60	40.95 <sup>bc</sup>	8.65	58.58 <sup>ab</sup>	19.56	33.38 <sup>c</sup>	12.77	10.44 <sup>**</sup>
Oppositional	63.65 <sup>ab</sup>	13.13	56.57 <sup>a</sup>	14.58	72.59 <sup>bc</sup>	9.11	58.75 <sup>a</sup>	12.12	79.75 <sup>c</sup>	8.93	12.45 <sup>**</sup>
Self-Demeaning	52.43 <sup>ab</sup>	23.07	33.37 <sup>a</sup>	18.36	56.05 <sup>bc</sup>	19.00	39.75 <sup>a</sup>	23.94	68.13 <sup>c</sup>	12.39	10.12 <sup>**</sup>
Borderline Tendency	47.57 <sup>ac</sup>	26.16	29.13 <sup>b</sup>	14.10	54.14 <sup>ad</sup>	18.25	31.08 <sup>ab</sup>	16.67	66.06 <sup>d</sup>	17.37	13.11 <sup>**</sup>
Identity Diffusion	48.39 <sup>ac</sup>	18.98	35.07 <sup>b</sup>	11.97	60.77 <sup>ad</sup>	18.07	37.33 <sup>bc</sup>	10.74	66.68 <sup>d</sup>	18.57	15.08 <sup>**</sup>
Self-Devaluation	51.78 <sup>ac</sup>	21.68	33.17 <sup>b</sup>	17.80	55.95 <sup>ad</sup>	21.32	35.83 <sup>bc</sup>	19.15	75.19 <sup>d</sup>	18.76	13.92 <sup>**</sup>
Body Disapproval	21.96 <sup>ab</sup>	17.66	19.03 <sup>b</sup>	19.14	28.55 <sup>ab</sup>	22.45	24.25 <sup>ab</sup>	27.47	37.31 <sup>b</sup>	22.83	2.21
Sexual Discomfort	45.22 <sup>ab</sup>	14.43	50.60 <sup>a</sup>	12.06	37.95 <sup>b</sup>	15.01	53.67 <sup>a</sup>	13.08	41.81 <sup>b</sup>	10.92	4.34 <sup>*</sup>
Peer Insecurity	53.78 <sup>ab</sup>	18.43	40.80 <sup>a</sup>	20.46	48.77 <sup>b</sup>	22.94	42.08 <sup>a</sup>	21.04	62.06 <sup>ab</sup>	26.09	3.13 <sup>*</sup>
Social Insensitivity	66.88 <sup>ab</sup>	13.53	67.57 <sup>a</sup>	14.83	73.27 <sup>a</sup>	17.86	66.50 <sup>a</sup>	14.09	65.38 <sup>a</sup>	15.20	.84
Family Discord	65.30 <sup>ab</sup>	16.73	61.93 <sup>a</sup>	15.36	74.41 <sup>bc</sup>	10.94	61.00 <sup>ab</sup>	19.27	84.38 <sup>a</sup>	10.87	8.02 <sup>**</sup>
Child Abuse	44.70 <sup>ab</sup>	25.96	28.30 <sup>b</sup>	16.34	46.41 <sup>bc</sup>	21.61	33.17 <sup>ab</sup>	17.77	68.44 <sup>c</sup>	18.24	10.98 <sup>**</sup>
Eating Dysfunction	20.39 <sup>ab</sup>	14.08	14.40 <sup>b</sup>	13.44	23.64 <sup>ab</sup>	18.01	19.17 <sup>ab</sup>	18.19	30.75 <sup>c</sup>	19.04	2.91 <sup>*</sup>
Sub. Abuse Proneness	53.39 <sup>ab</sup>	26.63	53.63 <sup>a</sup>	25.42	84.09 <sup>ab</sup>	25.12	46.08 <sup>b</sup>	19.09	76.69 <sup>b</sup>	29.52	7.94 <sup>**</sup>
Delinq. Predisposition	72.57 <sup>a</sup>	15.13	69.63 <sup>a</sup>	19.53	76.41 <sup>b</sup>	19.07	67.50 <sup>a</sup>	13.10	66.75 <sup>b</sup>	20.60	.913
Impulsive Propensity	64.88 <sup>ab</sup>	20.99	51.43 <sup>c</sup>	16.45	73.55 <sup>a</sup>	13.63	50.08 <sup>bc</sup>	15.42	72.31 <sup>a</sup>	18.37	8.30 <sup>**</sup>
Anxious Feelings	58.09 <sup>ab</sup>	16.75	51.27 <sup>ab</sup>	16.50	40.59 <sup>b</sup>	15.83	53.75 <sup>ab</sup>	11.35	44.81 <sup>ab</sup>	21.26	3.65 <sup>*</sup>
Depressive Affect	64.04 <sup>a</sup>	26.02	41.33 <sup>ab</sup>	26.02	67.18 <sup>b</sup>	25.44	52.83 <sup>ab</sup>	26.61	87.13 <sup>ab</sup>	11.93	10.27 <sup>**</sup>
Suicidal Tendency	34.65 <sup>ab</sup>	22.33	21.30 <sup>a</sup>	15.95	39.09 <sup>ab</sup>	22.08	24.25 <sup>ab</sup>	14.62	61.81 <sup>c</sup>	15.17	13.45 <sup>**</sup>

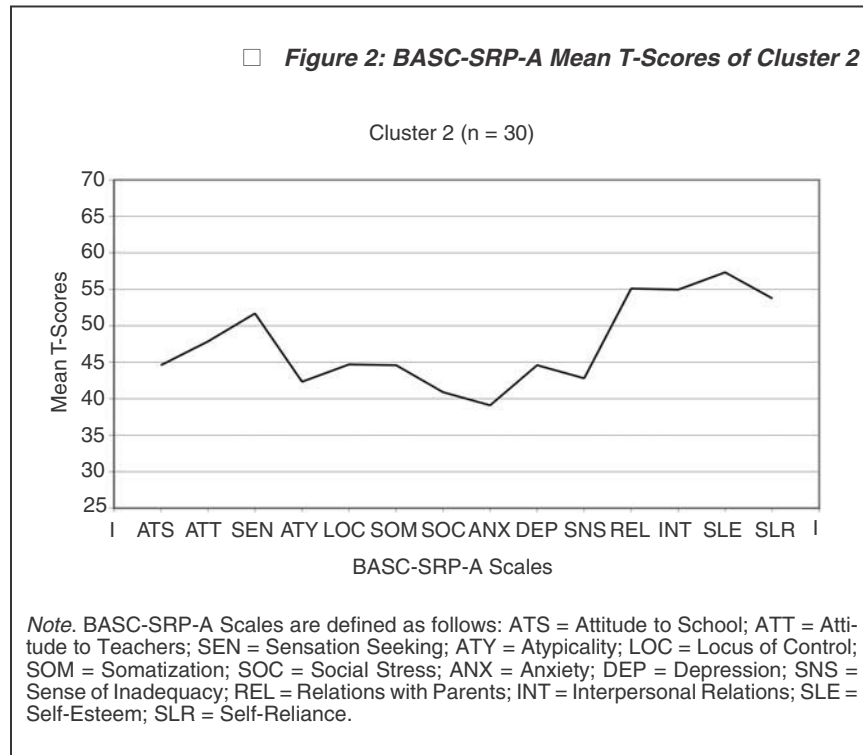
Note. Means in the same row without a common subscript are statistically significantly different at the .05 level of significance according to a Tukey Honestly Significant Difference post-hoc test. MACI = Million Adolescent Clinical Inventory.  
Sub. Abuse Proneness = Substance Abuse Proneness; Delinq. Predisposition = Delinquent Predisposition.  
\*  $p < .05$ . \*\*  $p < .001$ .



### **Cluster 3: Moderate Behavior Problems (N = 22)**

Though this cluster scored in the average range for all scales, elevations were noted in *Attitude to School*, *Attitude to Teacher*, *Sensation Seeking*, *Depression*, and *Sense of Inadequacy*. The adaptive scales fell within the average range, with *Self-Reliance* being well below the other adaptive scales. This cluster may be prone to hostility and dissatisfaction in the school environment and feelings of resentment and dislike of teachers, with a tendency for risky, acting out behavior. They may also be prone to feelings of unhappiness and dejection with perceptions of being unsuccessful in school and more general feelings of inadequacy. This could lead to lower self-reliance where they may lack confidence in their ability to solve problems.

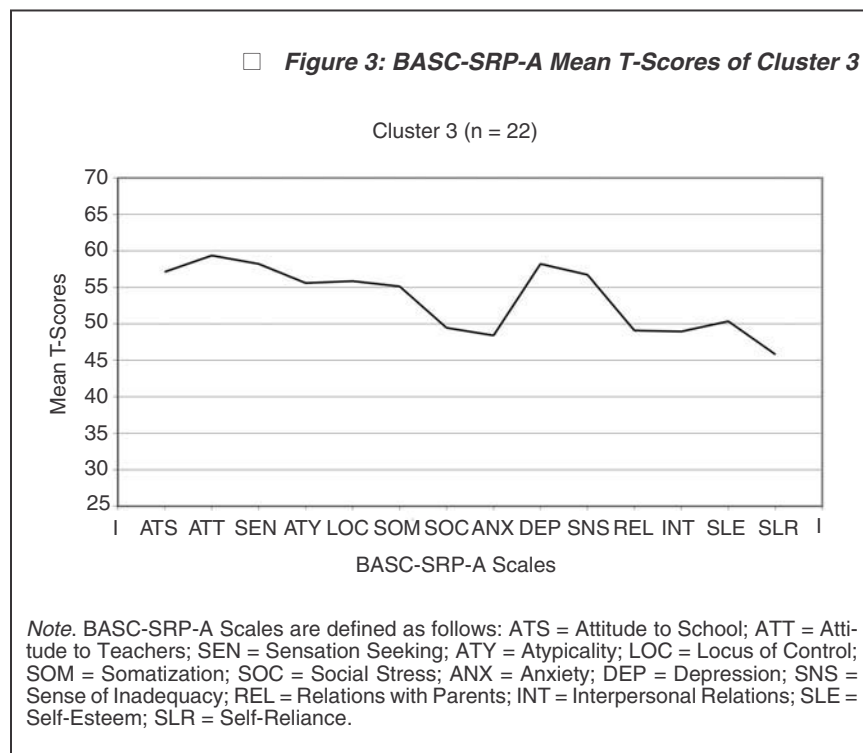
ANOVAs with the MACI indicated several scales in the clinical concern range for this cluster, as well as two scales within the clinically present range. Of clinical concern were the scales of *Doleful*, *Unruly*, *Oppositional*, *Identity*



*Diffusion, Social Insensitivity, Family Discord, Impulsivity, and Depressive Affect. Substance Abuse and Delinquent Predisposition both fell within the clinically present range.*

**Cluster 4: Low Self-Reliance (N = 12)**

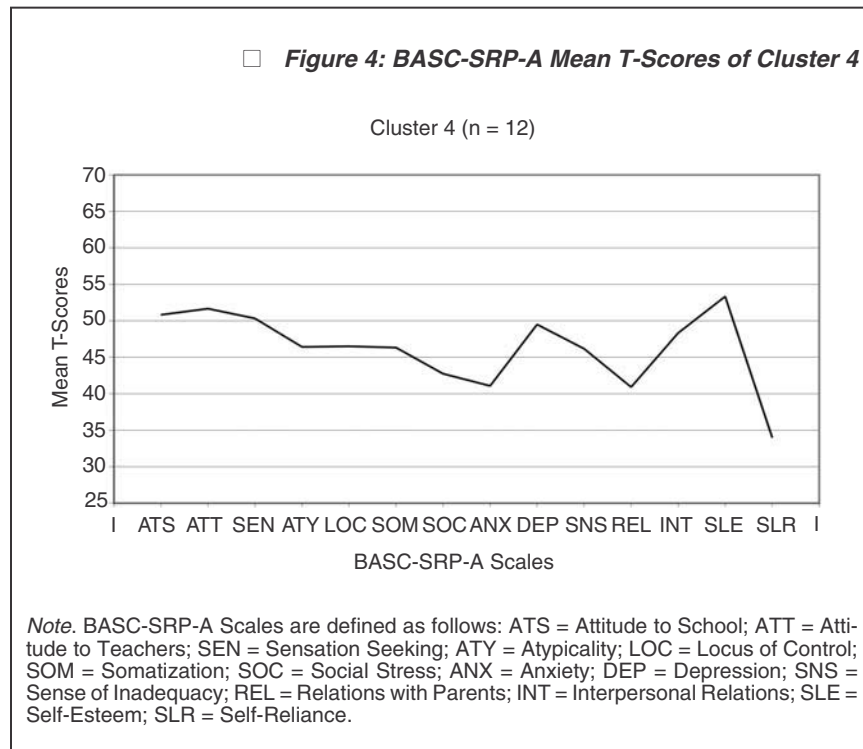
For this cluster, *Self-Reliance* fell within the at-risk range. Although all other scales fell within the average range, *Anxiety* and *Relations with Parents* were markedly lower than the other scales. While this does not raise a problem for *Anxiety*, the lowered scale score on *Relations with Parents* may indicate that the members of this cluster could be prone to view their parents as having less concern and trust for them. The at-risk score for *Self-Reliance* may suggest a lack of self-confidence, difficulty in facing life’s challenges, and a tendency to repress unpleasant thoughts or feelings. This may give credence to why the other behavioral scales were scored in the average range by this cluster. ANOVAs with the MACI revealed that the scales of *Unruly, Social Insen-*



*sitivity, Family Discord, and Delinquent Predisposition* were in the clinical concern range.

#### **Cluster 5: High Internalizers (N = 16)**

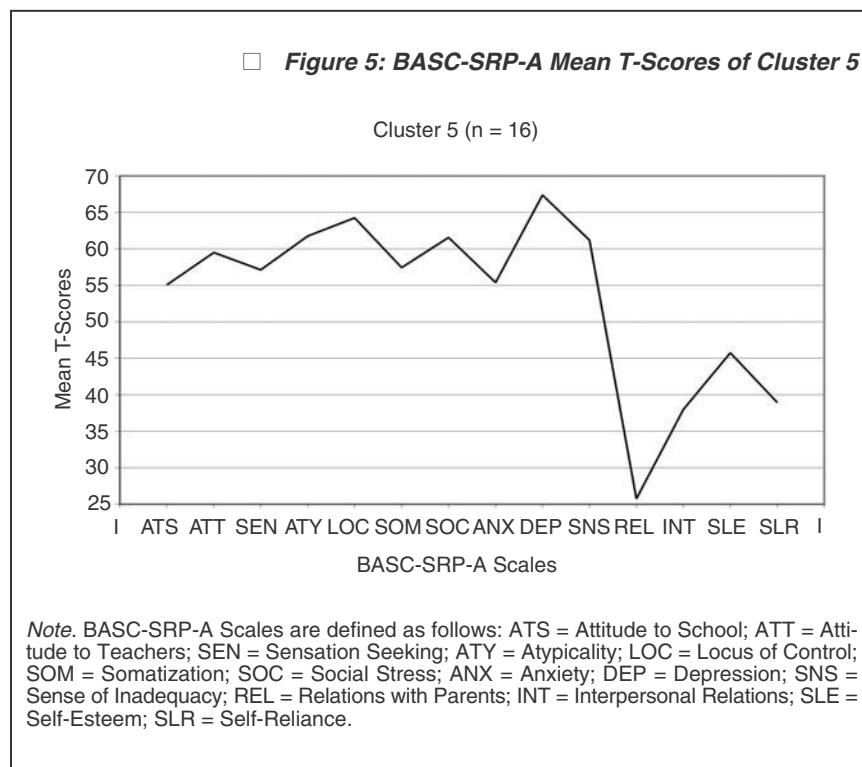
The highest scores for this cluster were found on the scales: *Atypicality, Locus of Control, Social Stress, Depression, and Sense of Inadequacy*. The lowest scores for this grouping were found in the adaptive scales of *Relations with Parents, Interpersonal Relations, and Self-Reliance*. The members of this cluster are at-risk for gross mood swings, bizarre thoughts, holding the belief that rewards and punishment are out of their control, feelings of stress and tension in relationships, feelings of unhappiness and being dejected, and perceptions of being unsuccessful in school and other environments, being unable to achieve their goals. The score for *Relations with Parents* fell within the clinically significant range, the only score out of all five clusters to reach this level. In looking at the adaptive scales, this cluster is experiencing problems in relating to others and developing social skills, as well as severe family problems



with the possibility of alienation. They are also lacking confidence in their own abilities and may be experiencing difficulties meeting certain challenges.

ANOVAs with the MACI revealed several elevations for this cluster on the MACI scales. Of clinical concern were the scales *Introversive, Inhibited, Unruly, Forceful, Self-Demeaning, Borderline, Identity Diffusion, Peer Insecurity, Social Insensitivity, Childhood Abuse, Delinquent Predisposition, Impulsivity, and Suicidal Tendencies*. Several scales fell in the clinically present range including *Doleful, Oppositional, Self-Devaluation, Family Discord, and Substance Abuse*. One MACI scale fell within the clinically prominent range, *Depression*, and this was the only cluster out of the five BASC-SRP-A clusters to have a MACI scale in the clinically prominent range.

In addition to the findings from the five clusters explained above, the authors cross-validated the cluster-derived data with youth offense history. Offenses were categorized into crimes against person, crimes against property, drug offenses, and status offenses. When entered into a Chi-Square analysis with the BASC-SRP-A clusters, no significant differences were noted between the clusters.



## DISCUSSION

In looking at the five separate cluster profiles obtained from the BASC-SRP-A scores, several conclusions can be drawn. Youths in Cluster 1 ( $N = 23$ ) present themselves as experiencing few, if any, difficulties other than what would be considered “normal” problems of adolescence. Cluster 2 ( $N = 30$ ) membership is noted for its elevations in Adaptive scales, particularly *Self-Esteem*. These feelings of self-respect and self-acceptance seem to be concomitant with low scores on the clinical scales of *Social Stress* and *Anxiety*, suggesting minimal fear and worry and a lack of stress or tension in interpersonal relationships. While youths in Cluster 3 ( $N = 22$ ) scored in the average range for all scales, certain elevations suggest that the youths may be prone to hostility and dissatisfaction in the school environment, feelings of resentment and dislike of teachers, and a tendency towards risky behavior. They may feel unsuccessful in the academic environment, have feelings of unhappiness and inadequacy, which contribute to a lack of confidence in their ability to solve

their own problems. Cluster 4's ( $N = 12$ ) *Self-Reliance* score fell within the at-risk range, suggestive of a lack of self-confidence, difficulty in facing challenges, and a tendency to repress unpleasant thoughts or feelings. The latter finding might be indicative of under-disclosure of behaviors that would be of clinical concern.

Only Cluster 5 ( $N = 16$ ) produced marked elevations in the *at-risk* and *clinically significant* ranges. Youths in this cluster noted the prevalence of gross mood swings, bizarre thoughts, an external locus of control, feelings of stress and tension in relationships, feelings of unhappiness and dejection, and perceptions of being unsuccessful in school and other environments, as well as being unable to meet their goals. Members of this cluster report experiencing severe family problems, possible alienation from the family environment, difficulties relating to others and developing adequate social skills, experiencing a lack of confidence in their own abilities, and having difficulties meeting the challenges that face them as adolescents. This cluster may be more prone to acting out behavior than members of any other cluster. Clusters 1 and 5 represent opposite ends of the continuum within this particular sample.

What is striking is the examination of these clusters across the scales of the MACI and the scores obtained by each cluster on this particular instrument. It was expected that youths in Cluster 5, representing the highest level of reported behavioral problems, would score above the clinical concern range for many of the MACI scales, and that this pattern would be seen to a lesser degree in Cluster 3. This pattern was indeed confirmed in that these two clusters showed the greatest elevations on both the MACI and the BASC scales. The highest MACI scale in Cluster 5 was the *Depression* scale, and concomitantly the BASC-SRP-A *Depression* scale was elevated also. The highest MACI scale in Cluster 3 was *Substance Abuse*, for which there was no BASC-SRP-A corollary. Unexpectedly, while the youths in Cluster 1 scored within the average range for all BASC-SRP-A clinical and adaptive scales, many of the MACI scales from this cluster fell within clinical concern ranges. The two highest scales were *Delinquent Predisposition* and *Unruly*, respectively. Additionally, while the youths in Cluster 2 showed the highest scores on the BASC-SRP-A adaptive scales, five MACI scales showed scores in the clinical concern range with the highest score on the *Delinquent Predisposition* scale. Youths in Cluster 4 showed the fewest elevations on the MACI scales of all the BASC-SRP-A clusters. It was noted earlier that this cluster's low score on the BASC-SRP-A scale of *Self-Reliance* could be indicative of the tendency to repress unpleasant thoughts and feelings, possibly contributing to lower scale scores on the MACI.

It should be noted that all five clusters scored four MACI scales in at least the clinical concern range: *Unruly*, *Social Insensitivity*, *Family Discord*, and *Delinquency*. Out of all five clusters, only one (Cluster 5) had more than one BASC-SRP-A scale score in the at-risk or clinically significant range. The significance of this finding is the MACI's ability to highlight symptomatic prob-

lem behavior where the BASC-SRP-A did not. This could be explained in one of two ways. First, since the BASC-SRP-A is used primarily in educational settings, it may not be sensitive to symptoms and problematic behaviors in this detained, juvenile offender sample. The MACI, normed on a clinical population, might be the better instrument for assessing levels of pathology within this population. On the other hand, since the MACI is used primarily in clinical and correctional settings, it could be over-pathologizing these same symptoms and problematic behaviors. The atmosphere and the environment in which the participants find themselves may bring about higher levels of disclosure to questions designed to assess pathology. It is beyond the scope of the current study to determine which of the aforementioned conclusions may be correct, but it does lend itself to direction for future study. It may be beneficial to compare results from an educational setting with results from a juvenile detention setting, or to compare results from adjudicated youths (on probation) with those youth in a detention center to see if similar clusters would emerge.

The current study found five distinct clusters across the scales of the BASC-SRP-A among a juvenile offender sample. The results point to the necessity of considering differential treatment approaches when working with individuals in a juvenile offender population. Results from cross-validation with another instrument, the MACI, also suggest the importance of multiple forms of assessment in forming a comprehensive treatment plan.

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