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Availability. The program is available for downloading through the WWW at http://www.gsu.edu/~psyrab/ bakeman.html. Alternatively, the program can be obtained by sending an IBM-formatted disk and stamped return mailer to the first author.

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Automated syndromic profile and discriminant classification analyses for the Adjustment Scales for Children and Adolescents

The Adjustment Scales for Children and Adolescents (ASCA; McDermott, Marston, & Stott, 1993) is an objective behavior rating instrument designed to be completed by a student's classroom teacher, for use with all noninstitutionalized youth ages 5-17 years. The ASCA is composed of 156 behavioral descriptions in 29 specific situations in which teachers may observe students' behaviors rather than a symptom or problem checklist. Of the 156 items, 96 are scorable and based on factor analyses, singularly assigned to one of six core syndromes (Attention-Deficit/Hyperactive, Solitary Aggressive-Provocative, Solitary Aggressive-Impulsive, Oppositional Defiant, Diffident, and Avoidant) or two supplementary syndromes (Delinquent and Lethargic/Hypoactive). Raw scores are converted to normalized T scores that are based on the nationally representative standardization sample.

The Syndromic Profile Interpretation approach was developed to facilitate differential diagnosis and classification using the ASCA. McDermott and Weiss (1995) produced a cluster analysis for the 1,400 students in the ASCA standardization sample that yielded 22 syndromic profile types (14 major and 8 clinical subtypes) using the six core syndromes. Profiles varied with regard to distinct behavior and severity as well as by prevalence for age, gender, socioeconomic status, cognitive ability, achievement, handicapping condition, and physical problems (McDermott, 1994; McDermott & Weiss, 1995). Detailed descriptions of the process of comparing the normalized T score profile for a selected syndromic profile type with the obtained T score profile for a youth in question with the use of the generalized distance score (GDS) were also presented by these authors. The GDS is a measure of profile similarity (dissimilarity) that is obtained by examining deviations of a youth's Tscores from the average T scores for a specified group (profile type). Calculation of GDSs is fully explained and an example is provided in the ASCA manual (McDermott, 1994). The youth's profile is classified as most similar to the ASCA profile type that results in the smallest GDS. Characteristics associated with each of the 22 syndromic profile types are also presented in the ASCA manual (McDermott, 1994) as well as in McDermott and Weiss (1995).

The Discriminant Classification Interpretation method is based on the discriminant function equations obtained from a validity study showing that the ASCA differentiated "normal" from "socially/emotionally disturbed" youths. Although the quadratic discriminant function equations were slightly more accurate (by an average of about 2%), the linear method is presented in the ASCA

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Syndromic Profile Analysis							
	ADH	SA(P)	SA(I)	OpD	Dif	Avo	1
Subject's T=	65	69	72	69	47	53	
Syndrome	Average T	scores for	Syndromic	Profile Types in National Sample			GDS*
Type 1	39	45	47	43	40	42	2723
Type 2	39	45	47	43	58	42	2795
Type 3 :	55	45	47	43	40	42	2147
Type 4	55	45	47	43	58	42	2219
Type 5	39	45	47	43	40	58	2627
Type 6	39	45	47	44	61	61	2762
Type 7	54	45	47	43	61	62	2275
Type 8	56	45	47	62	59	62	1556
Type 9	57	45	47	62	40	45	1427
Type 10	3 9	45	47	60	51	49	1990
Type 11	56	45	47	44	40	60	2005
Type 12	56	45	47	62	58	42	1573
Type 13	60	68	47	64	52	62	782
Type 14	61	68	47	63	45	42	803
Type 15	57	67	47	43	45	43	1473
Type 16	45	67	47	47	59	52	1658
Type 17	59	45	69	52	52	53	935
Type 18	63	67	69	44	44	49	667
Type 19	63	71	73	69	52	64	155
Type 20	69	70	72	67	43	. 44	118
Type 21	48	45	54	43	99	47	4605
Type 22	57	53	54	64	49	99	2789
Note. Average T Scores for Syndromic Profile Types in the ASCA National Standardization Sample obtained from Table 12 of the ASCA Manual (McDermott, 1994, pp. 24-25). T scores in bold italic \geq 55.							
ADH = Attention-Deficit/HyperactiveOpD = Oppositional/Defiant *GDS = GeneralizedSA(P) = Solitary Aggressive (Provocative)Dif = DiffidentDistance ScoreSA(1) = Solitary Aggressive (Impulsive)Avo = AvoidantDistance Score							
Profile is classified as most similar to type with <u>smallest</u> GDS!							

ASCA Syndromic Profile and Discriminant Classification Template

Discriminant Classification	Discriminant Score
	Normal = 52.96
Socially/Emotionally Dis	turbed = 54.72
Profile is classified as most similar to the gr	oup with the <u>highest</u> Discriminant Score!

Figure 1. Sample (Black/White) printout of the Adjustment Scales for Children and Adolescents (ASCA) Syndromic Profile and Discriminant Classification Template. Note—Data, formulae, and procedures from *National Profiles in Youth Psychopathology: Manual of Adjustment Scales for Children and Adolescents*, by P. A. McDermott, 1994, Philadelphia: Edumetric and Clinical Science. Copyright 1994 by Edumetric and Clinical Science. Reprinted with permission. Template copyright 1996 by G.L. Canivez.

manual and is recommended as more convenient and less complicated (McDermott, 1994). The two discriminant function equations (one for normal youths and one for socially/emotionally disturbed youths) are presented in the ASCA manual. The examiner applies the youth's six core syndrome T scores to each formula, and the youth's profile is classified as normal or socially/emotionally disturbed, depending on which group results in the larger discriminant score. McDermott has warned that in such classifications, it is extremely important to consider the characteristics of the clinical reference groups used for discriminant function analysis, and in this case, the group of socially/emotionally disturbed youth is composed of students enrolled in special education classes and thus reflects an overpopulation of externalizing/acting out students and an underpopulation of internalizing/withdrawn students. As such, caution in this interpretation method is most warranted.

ASCA Syndromic Profile and Discriminant Classification Template. Because the Syndromic Profile Interpretation and Discriminant Classification Interpretation methods require multiple mathematical calculations based on the six core syndromes, a Microsoft Excel spreadsheet template, as optimized for the Apple Macintosh microcomputer (Microsoft, 1994) was created. Such a template seemed necessary to facilitate reliable calculation and analyses, which guide interpretation. In the case of Syndromic Profile Interpretation, the profile resulting from the six core syndrome T scores of a referred youth can be compared with each of the 22 different profile types resulting from the ASCA cluster analyses (McDermott, 1994; McDermott & Weiss, 1995). Thus, Syndromic Profile Interpretation could involve calculating as many as 22 GDSs. Miscalculations would result in errors in obtaining GDSs and thus lead to errors in differential diagnosis. In the case of the Discriminant Classification Interpretation method, the six core syndrome T scores are entered into a regression formula representing normal children and a regression formula representing socially/ emotionally disturbed children (McDermott, 1994, p. 29). Miscalculations in resolving either of the regression formulas could also result in misclassification the youth as a member of the normal or socially/emotionally disturbed group.

Figure 1 presents the Microsoft Excel ASCA Syndromic Profile and Discriminant Classification Template, which automatically calculates the GDS for each of

the 22 ASCA profile types. Average T scores for each of the 22 profile types found in the national standardization sample (McDermott, 1994; McDermott & Weiss, 1995) are presented in the template. Users of this template need only enter the youth's six core syndrome T scores into the highlighted cells at the top. The user then examines the GDSs and classifies the referred youth's profile as most similar to the profile type with the smallest GDS. The template also uses the six core syndrome T scores entered to automatically calculate the discriminant scores for normal and socially/emotionally disturbed groups. The youth's profile is classified as most similar to that of the group with the highest discriminant score. The example T score data in Figure 1 and in the template are the example data presented in the ASCA manual (McDermott, 1994, p. 23).

Availability. Operational versions of the Microsoft Excel Syndromic Profile and Discriminant Classification Template may be downloaded as a self-extracting archive at no charge from G.L.C.'s World-Wide Web (WWW) home page at http://www.ux1.eiu.edu/~cfglc. For those without access to the WWW, the template may be obtained from G.L.C. by sending a Macintosh preformatted 3.5-in. floppy disk with a self-addressed envelope and \$5.00 to cover expenses.

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