

Vineland Adaptive Behavior Scale for people with mental retardation, emotional disorders, and behavioral problems

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Abstract:

Objectives: The Vineland Adaptive Behavior Scale-II is useful in assessing an individual's daily functioning. They can be used as an evaluation and diagnostic tool for individuals who are mentally retarded or individuals with other handicaps.

Method: To determine the efficacy of VABS in clinical settings, 3 cases with mental retardation and behavioral or emotional problems were evaluated according to instruction scale in clinical settings. The subjects were referred to take rehabilitative and psycho educational aids.

Results: The analyses of the obtained scores exhibit a powerful dimension of the VABS to discriminate weakness and strength adaptive behavior's components.

Conclusion: The VABS can be used to develop individual educational, rehabilitative, and treatment programs and can monitor progress during such a program. Finally, the VABS can be used in research in which the development and functioning of handicapped and non-handicapped individuals are investigated.

Key words: adaptive behavior, vineland adaptive behavior scales, behavioral problems, mental retardation.

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Introduction

Adaptive behavior is defined as the capacity to satisfy developmental and social demands of one's immediate environment (5). It measures the practical matter of successful living in areas such as self-help, physical development, communication skills, personal and social skills, healthcare, consumer skills, domestic skills, and community orientation (7, 15). A broader categorization of adaptive behavior can be described in four domains: 1) self-maintenance and independent functioning, 2) interpersonal relationships, 3) social responsibility, and 4) cognitive competencies or communication skills (15,11).

The inclusions of measures of adaptive behavior as part of an intellectual assessment has been a well-established practice in assessing children who may need special education (e.g. mentally retard, emotionally disordered, and behaviorally disturbed).

Assessment is a critical component of providing effective services to individuals with mental retardation (MR) and other mental disorders or behavioral difficulties (17). By conducting a thorough assessment, communication between professionals is facilitated and treatment decisions are made that can greatly impact the quality of life experienced by those with MR and other psychological disorders. It has been noted by many researchers that an assessment which includes information related to adaptive functioning, and behavior problems often provides the necessary information to arrive at a valid diagnosis and develop a thorough treatment plan. This information may be gathered through various methods, yet researchers have found that interviewing scales administered to caregivers can be used in a cost-effective manner (saving time and financial resources) while also providing a reliable and valid means of assessment. In this article, we describe a type of assessment and interpretation via Vineland Adaptive Behavior Scale-II that has proven useful for evaluating individuals with varying levels of MR, emotional disorders and some behavioral difficulties. The Vineland Adaptive Behavior Scales (VABS), (16) consist of 4 domains (and 11 sub- domains) of adaptive behavior as follows: (1) communication (receptive, expressive, written), (2) daily living skills (personal, domestic, community), (3) socialization (interpersonal relationships, play and leisure time,

coping skills), and (4) motor skills (gross and fine). A composite score is provided by scores obtained in the 4 domains (and 11 sub-domains); maladaptive behaviors are also assessed. A standard score is obtained for the adaptive behavior composite and for each adaptive domain. The scales were revised in 1984 and 2005, respectively, to provide updated valid and reliable norm-referenced data (16).

Method:

To examine the efficacy of VABS for assessing and interpretation of mental retardation, emotional disorders, and behavioral problems in clinical setting, we administered the scale on 3 clients with diagnostic criteria as mentioned above.

In accordance with instruction of the scale, the respondent for the interview must be the adult who is most familiar with the behavior of the individual being evaluated, so, the participants in the study were mothers of the cases who were interviewed through the authors of the present article. After that, we derived the scores and interpreted the results which would be mentioned later.

Results:

Case "A":

She was a guidance school student aged 13 years 5 months, who was referred for evaluation because she was having difficulty getting along with her classmates and teachers. Her mother was interviewed with the Vineland survey form-II. The results are presented here to illustrate the steps in interpretation. Figure 1 indicate the score summary and drop file for her performance, and figure 2 reports the results of the investigation to determine which, if any, differences between domain standard scores were significant.

She obtained an adaptive behavior composite standard score of 88, and at the 90 percent confidence level, her true score correspondence to a national percentile rank of 21 and classifies her general adaptive functioning as adequate, although it is below average for her age group.

She's standard scores in the adaptive behavior domains, along with the band of error at the 90 percent level of confidence are as follows: communication 96 ± 11 (85-107), daily living skills 99 ± 8 (91-107), and Socialization 78 ± 11 (67-89).

Sub domain		Raw scores	Standard scores $\bar{x}=100$ SD=15	Band of error	National norm group	Stanine	Supplementary norm group	Adequate level	Supplementary norm group adequate level	Age equivalent
	Receptive	26						adeq		7-10
	Expressive	60						Mod		8-9
	Written	40						adeq		13-6
Communication domain SUM		126	96	± 11	39	5		adeq		12-6
	Personal	77						adeq		13-6
	Domestic	34						adeq		16-0
	Community	45						adeq		12-6
		156	99	± 8	47	5		adeq		13-6
SOCIALIZATION DOMAIN	Inter personal relationships	45						adeq		9-8
	Play and leisure time	26						LO		0-8
	Coping Skills	31						adeq		2-0
SOCIALIZATION DOMAIN SUM		102	78	± 11	7	2		Mod		9-0
	Gross									
	Find									
SUM OF DOMAIN STANDARD SCORES			273							
ADAPTIVE BEHAVIOR COMPOSITE			88	7	21	3		adeq		11-10
COMMUNICATION DOMAIN	96 \pm 11									
DAILY LIVING SCALS DOMAIN	99 \pm 8									
SOCIALIZATION DOMAIN	78 \pm 11									
MOTOR DOMAIN	\pm									
	88 \pm 7									

Figure 1. Vineland Adaptive Behavior Scales: Interview edition survey form

Individual's name: case "A"

Chronological age: 13-5-7

Her performance in the communication and daily living skills domains, which corresponds to percentile ranks of 39 and 47, respectively, is at the adequate adaptive level. Her socialization domain standard score, however, corresponds to a percentile rank of 7, and is classified as moderately low when compared with other children the same age. There information in figure 2 is provided to determine if there are any significant patterns in her adaptive behavior.

Her adaptive functioning in the area of Socialization represents a statistically significant weakness ($p \leq .05$) when compared with her mean performance on all three domains. (See figure 2.). In addition, a difference of these magnitudes was unusual when compared with the differences obtained by the national standardization sample. The difference occurred in less than 10 percent of individuals her age. Her performance in the socialization domain therefore showed a significant and unusual weakness in comparison with her own average level of functioning.

The 21-point difference between her daily living skills standard score of 99 and Socialization standard score of 78 is both statistically significant at the .05 level and unusual: the difference fell in the extreme 10 percent for her age group in the national standardization sample.

The range of 21 points between her highest and lowest domain standard scores (Daily Living Skills and Socialization) is statistically significant at the .05 level. This range of domain standard scores, however, is not large enough to be considered unusual when compared with others in the "case" age group in their national standardization sample. Thus, her range of domain standard scores is too large to be attributed to chance fluctuations in her scores but is not unusual or abnormal when compared with the standardization sample.

It should be noted that her significant weakness in socialization when compared with her average level of functioning, provided the most concise information about her domain fluctuations. A review of sub domain performance indicates that within the area of her significant weakness, the socialization domain, her performance in the play and leisure time sub domain is low. And her performance in the interpersonal relationships and coping skills sub domain is adequate. Also, although her performance in the communication domain is adequate, she obtains an adaptive level of moderately low for the expressive sub domain. She's performance in all other sub domains is in the adequate range.

1.Domain Strengths and Weaknesses: Differences between Each Domain Standard Score and the Mean Standard Score						
Domain	Standard Score	Difference standard score and Mean	Strengths (S) Or Weaknesses (W)	Statistical significance level	National standardization sample	Supplementary norm group
Communication	96	+5	S	_____	_____	
Daily Living Skills	99	+8	S	_____	_____	
Socialization	78	-13	W	.05	Extreme 10%	
Motor Skills						
Sum	273					
Mean	91					
2.pairwise Comparisons between Domain Standard Scores						
Domain	> <	Domain	Difference between standard score	Statistical significance level	National Standardization Sample	Supplementary Norm Group
Communication	<	Daily Living Skills	3	_____	_____	
Communication	>	Socialization	18	_____	_____	
Communication	— =	Motor Skills				
Daily Living Skills	>	Socialization	21	.05	Extreme 10%	
Daily Living Skills	— =	Motor Skills				
Socializations	— =	Motor Skills				
Range of Domain Standard Scores						
Domain with highest Standard Scores	Domain with Low standard Scores	Difference between Standard Scores	Standard Significance Level	National Standardization Sample	Supplementary Norm Group	
Daily living skills	Socialization	21	.05	_____		

Figure 2. Score summary and profile completed for case A

Case "B":

He was a mentally retarded aged 29years 4 months, and was evaluated by WAIS-R .he obtained a full scale IQ of 62 (verbal IQ of 62 performances IQ of 65). After that, the survey form was administered. Figure 3 shows his score summary and profile. Figure 4 shows the results of the investigation of his domain strengths and weaknesses.

The results revealed an adaptive behavior composite standard score of 59at the 90 percent confidence level; his true score is said to fall within the range of 52 to 66. His adaptive behavior composite standard score ranks him in the lowest 1 percent of the national standardization sample and classifies his general adaptive functioning as low. His standard scores in the adaptive behavior domains, along with the bands of error at the 90 percent confidence level, are as follows. Communication 46 =11(3557). Daily living skills 83=9(74-92), and socialization 65=9(56-74). His performance in the daily living skills domain is moderately low although his standard score of 83 is only 2 points below the adequate level. His level of functioning in both the communication and socialization domains is low. When his standard scores in the three domains were compared with his mean domain standard score of 65 (Figure 4), it was determined that he exhibits a statistically significant strength ($p \leq .01$) in the communication domain. The strength in daily living skills and weakness in communication are unusual, based on the performance of the standardization sample. Discrepancies of the magnitude of his daily living skills standard score and his mean standard score, and the communication standard score and his mean standard score, were evidenced by fewer than 10 percent of the age reference group used in the national standardization sample

A review of his sub domain performance tells us that his performance in the personal sub domain is low. This is in contrast to his relative overall strength in the daily living skills domain and his adequate levels of performance for the other two sub domains of this domain, Domestic and community. In the communication domain a weakness for him, he obtained low adaptive levels for the expressive and written sub domains. His performance in all Socialization sub domains is moderately low.

The items of the personal sub domain were reviewed to generate hypotheses about his surprisingly low performance. The item scores suggest that he is performing most activities (toileting, dressing, grooming).

Sub domain		Raw scores	Standard scores $\bar{x}=100$ SD=15	Band of error	National norm group	Stanine	Supplementary norm group	Adequacy level	Supplementary norm group level	Age equivalent
	Receptive	26						Adeq		7-10
	Expressive	60						Lo		8-9
	Written	32						Lo		9-0
Communication domain SUM		118	46	± 11	21	1	SP 95	Lo		9-6
	Personal	76						Lo		11-6
	Domestic	30						adeq		11-9
	Community	53						adeq		14-6
		159	73	± 9	13	3	SP90	Mod		14-6
	Inter personal relationships	45						Mod		9-8
	Play and leisure time	32						Mod		11-0
	Coping Skills	33						Mod		13-9
SOCIALIZATION DOMAIN SUM		110	65	± 9	1	1	Sp80	Lo		12-0
	Gross									
	Find									
SUM OF DOMAIN STANDARD SCORES			194							
ADAPTIVE BEHAVIOR COMPOSITE			54	± 7	0.3	1	SP90	Lo		12-0
COMMUNICATION DOMAIN	46 \pm 11									
DAILY LIVING SCALS DOMAIN	83 \pm 9									
SOCIALIZATION DOMAIN	65 \pm 9									
MOTOR DOMAIN	\pm									
	59 \pm 7									

Figure 3. Vineland Adaptive Behavior Scales: Interview edition survey form

Individual's name: case "B"

Chronological age: 29-4-9

His low adaptive level appears to be a result of his performance on one item: taking responsibility for his health care is important to note, it does not merit concern about his overall performance of activities in personal sub domain.

A review of his performance on the items of the expressive and written sub domains shows that his low adaptive level for the expressive sub domain is based on only one item activity expressing goals for the future. Although only one item is involved, it is suggested that, because of his weakness in the communication domain, the expressive sub domain of the expanded form be administered. In the written sub domain, he does not perform many activities, such as reading at the fourth grade level, writing letters, and using the table of contents or index in reading materials. It is recommended that the written sub domain of the expanded form be administered to acquire more specified information about his performance in this area. For part 1 of the maladaptive behavior domain he obtained a maladaptive level of no significant in comparison with the national standardization sample.

His percentile ranks for the adaptive behavior composite and domains, using a sample of mentally retarded adults in nonresidential facilities as the reference group, were in the PR80 to PR 95 range his performance in comparison with this group is classified as PR above average. This is in contrast to his performance in comparison with the national. No handicapped standardization sample; with the exception of the national percentile rank of 13 for the Daily Living Skills domain all national percentile ranks were or lower.

The differences between his Daily Living Skills and communication domain standard scores showed his mean standard score were unusual. Occurring in less than the extreme 10 percent of the national standardization sample (see figure 4). They are not unusual, however, when compared with the differences obtained by the supplementary norm group of mentally retarded adults in nonresidential facilities this information may appear somewhat contradictory. but simply indicates that While the differences between his Daily Living Skills and Communication domain standard scores and his mean standard score are unusual when compared with a group of non handicapped individuals, these differences are not abnormal for a group of individuals with the same handicap as him.. It is important not only to interpret his relative strength in Daily Living Skills and weakness in communication and to make recommendations concerning his performance in these areas, but also to note that the differences between his standard scores for these domains and his mean standard score are not unusual for mentally retarded adults in non residential facilities.

he exhibited non maladaptive behavior on part 1 and parts 1 and 2 of the Maladaptive Behavior when compared with the supplementary norm group of mentally retarded

adults in nonresidential facilities. His part 1 maladaptive when compared with the national standardization sample was also no significant.

1.Domain Strengths and Weaknesses: Differences between Each Domain Standard Score and the Mean Standard Score						
Domain	Standard Score	Difference between standard score and Mean	Strengths (S) Weaknesses (W)	Statistical significance level	National standardization sample	Supplementary norm group
Communication	46	-19	W	.01	Extreme 10%	_____
Daily Living Skills	83	+18	S	.01	Extreme 10%	_____
Socialization	65	0				
Motor Skills						
Sum	194					
Mean	64.7					
2.pairwise Comparisons between Domain Standard Scores						
Domain	> <	Domain	Difference between standard score	Statistical significance level(.06 of .01) Table B.16	National Standardization Sample	Supplementary Norm Group
Communication	— —	Daily Living Skills				
Communication	— —	Socialization				
Communication	— —	Motor Skills				
Daily Living Skills	— —	Socialization				
Daily Living Skills	— — —	Motor Skills				
Socializations	— — —	Motor Skills				
Range of Domain Standard Scores						
Domain with highest Standard Scores	Domain with Low standard Scores	Difference between Standard Scores	Standard Significance Level	National Standardization Sample	Supplementary Norm Group	

Figure 4. Score summary and profile completed for case B

Case "C"

She is a girl with 8 years 10 months old and in the third grade, was referred because of suspected emotional disorder. she was administered the Peabody picture

vocabulary test- revised (PPVT-R; Dunn & dunn, 1981); Wechsler intelligence scale for children-revised (WISC-R; Wechsler, 1974); woodcock-Johnson psycho educational battery tests of achievement (Woodcock,1978),and developmental test of visual-motor integration(Beery&Bucktenica,1967).the results obtained from these instrument, summarized in table 7,indicate that she excels in intellectual development hearing vocabulary, academic achievement, and visual-motor skills.

The survey form was administered with his mother as the respondent .the results are summarized in figure 5. She obtained a standard score of 104 for the Adaptive behavior Composite, at the 90 percent confidence level, her true score is said to fall between 97 and 111. This range of standard scores and bands of error at the 90 percent level of confidence are communication 124 ± 9 (115-133), Daily Living Skills 109 ± 9 (100-118), and socialization 76 ± 10 (66-86).

She exhibits quite different levels of functioning in the domains. Her communication domain performance is classified as moderately high. The items of this domain measure verbal skills as well as school related skills of reading and writing and her performance in this area is consistent with her high level of performance on the PPVT.R ,WISC-R , and Woodcock-Johnson achievement cluster. Her performance in the Daily Living Skills domain is Adequate, Wile her performance in the socialization domain is classified as moderately low. The socialization domain is an area of concern because it is related to the reason for referral a suspected emotional disorder.

An exploration of domain strengths and weakness(figure.6)indicates that she exhibits a statistically significant strength($p < .01$)in the Communication domain and a statistically significant weakness ($p < .01$)in the Socialization domain when these domains are compared with her average level of functioning .the differences between these domain standard score and her average standard score are unusual ,as well. They were obtained by less than 2 percent (Communication domain) and 1 percent (Socialization domain) of individuals her age in the national standardization sample.

her performance in the Survey form sub domains indicates adequate or moderately high adaptive levels for all sub domains , with the exception of moderately low levels for two socialization sub domains, interpersonal Relationships and play and leisure time. Her performance in these two sub domains is consistent with the moderately low level of performance on the Socialization domain.

Sub domain		Raw scores	Standard scores $\bar{x}=100$ SD=15	Band of error	National norm group	Stanine	Supplementary norm group	Adequate level	Supplementary norm group adequate level	Age equivalent
	Receptive	26						adeq		7-10
	Expressive	62						Mod		19-6
	Written	32						Mod		11-9
Communication domain SUM		126	124	+9	95	1		Mod		12-6
	Personal	75						Adeq		10-2
	Domestic	22						adeq		8-0
	Community	44						Mod		11-9
		141	109	+9	73	6		adeq		9-10
SOCIALIZATION DOMAIN	Inter personal relationships	38						Mod		4-10
	Play and leisure time	24						Mod		5-0
	Coping Skills	20						Adeq		6-2
SOCIALIZATION DOMAIN SUM		92	76	±10	5	2		Mod		5-8
	Gross									
	Find									
SUM OF DOMAIN STANDARD SCORES			309							
ADAPTIVE BEHAVIOR COMPOSITE			104	±7	61	6		adeq		9-4
COMMUNICATION DOMAIN	124±9									
DAILY LIVING SKILLS DOMAIN	109±9									
SOCIALIZATION DOMAIN	76±10									
MOTOR DOMAIN	±									
	104±7									

Figure 5. Vineland Adaptive Behavior Scales: Interview edition survey form

Individual's name: case "C"

Chronological age: 8-10-0

Her performance in the items of the interpersonal Relationships and play and leisure time sub domains was reviewed to generate more specific hypotheses about her

functioning in these areas. In the interpersonal Relationships sub domain, item scores suggest that she does not do things with friends or groups of friends and may not communicate well socially. In the play and leisure time sub domain, item scores suggest that she may have problems with sharing and cooperating and has no hobbies (figure 6). For maladaptive behavior domain, her maladaptive level is no significant, indicating that maladaptive behaviors are not interfering with adaptive functioning.

1.Domain Strengths and Weaknesses: Differences between Each Domain Standard Score and the Mean Standard Score						
Domain	Standard Score	Difference between standard score	Statistical significance level(.06 of .01)	Statistical significance level	National standardization sample	Supplementary norm group
Communication	124	+21	S	.01	Extreme 10%	
Daily Living Skills	109	+6	S	—	—	
Socialization	76	-27	W	.01	Extreme 10%	
Motor Skills						
Sum Mean	309 103					
2.pairwise Comparisons between Domain Standard Scores						
Domain	> <	Domain	Difference between standard score	Statistical significance level(.06 of .01) Table B.16	National Standardization Sample	Supplementary Norm Group
Communication	<	Daily Living Skills	S	—	—	
Communication	>	Socialization	S	—	—	
Communication	— —	Motor Skills	W	.05		
Daily Living Skills	>	Socialization				
Daily Living Skills	— —	Motor Skills				
Socializations	—	Motor Skills				
Range of Domain Standard Scores						
Domain with highest Standard Scores	Domain with Low standard Scores	Difference between Standard Scores	Standard Significance Level	National Standardization Sample	Supplementary Norm Group	

Figure 6. Score summary and profile completed for case C

Conclusion:

Several hypotheses can be generated about case A's performances. First, her performance in the play and leisure time sub domain appears to be the major contributor to her weakness in the socialization domain. The next logical step is to examine she's performance on the times of the play and leisure time sub domain .because she has a moderately low level of performance in expressive sub domain, those item scores should be reviewed as well. The play and leisure time item scores indicate that she has no hobbies and does not go place with friends. In the expressive sub domain, she does not express abstract ideas. The latter involves only one item, an item about expressing goals for the future.

She obtained a maladaptive level of intermediate for part 1 of the maladaptive behavior domain. A review of the item scores in this domain tells us that she expresses a dislike for school and is withdrawn and defiant. Because she was referred for her difficulty in getting along with her classmates and teachers, further evaluations of her maladaptive behavior is recommended, perhaps through discussions with her parents, teachers, and even by herself.

While her overall adaptive functioning is in the adequate range, the survey form results show a significant weakness in socialization in comparison with her own average level of functioning. It is recommended that the entire socialization domain of the expanded form be administered to acquire more information about her weakness in socialization and to provide support for the hypothesis that her performance in the play and leisure time sub domain is a major contributor to her socialization weakness. In addition, further evaluation of her expression of abstract concepts, which contributed to a moderately low adaptive level for the expressive sub domain. And further evaluation of her maladaptive behavior is suggested.

In conclusion of the case "B", overall adaptive functioning is in the low range and is consistent with his intellectual functioning as measured by the WAIS-R. His performance in the Daily Living Skills domain however is in the moderately low to adequate range and is strength in comparison with his average level of functioning. Furthermore, he appears to be functioning quite well in all areas when compared with others having handicap .This suggests that he has been able to perform the programs in which he participates at his training school and at home.

To conclude case "C", her hearing vocabulary, intellectual level, academic achievement, and visual –motor skills are well above average. She above average functioning in these areas is consistent with her performance in the survey form communication domain. Her functioning in the Daily Living Skills domain, while lower than in communication is Adequate.

It is clear from the results of the survey form that her greatest psycho educational needs are in the area of Socialization and more specifically, in Interpersonal Relationships and Play and Leisure time administration of the entire socialization domain of the expanded form is recommended in order to acquire more information about her functioning and to plan an effective program for her at home and school.

To sum up, our study has limits that must be taken into account. The number of samples, although adequate for the analysis, must be increased. There will have to be studies comparing persons with different Intellectual or behavioral Disability etiological diagnoses. Environmental variables, such as living in the family or in an institute, will have to be compared. Lastly, the correlation between VABS and other related scales in the presence of specific psychopathological and/or behavioral issues will have to be considered.

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