

# RESEARCH WITH ADAPTIVE BEHAVIOR SCALES

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In recent years, a great deal of research concerning adaptive behavior scales has been conducted. This article reviews adaptive behavior research in the following areas: the relationship between adaptive behavior and intelligence and school achievement, the relationship between

different measures of adaptive behavior, predictive aspects, declassification, group differences in adaptive behavior, the relationship between parents' and teachers' ratings, factorial dimensions, the effects of training and intervention, and stability and interrater reliability.

Adaptive behavior assessment, or assessment of the daily performance of activities required for personal and social sufficiency, has received much attention from professionals who work with handicapped and nonhandicapped individuals in settings such as schools, residential and nonresidential training centers, hospitals, and mental health centers. Although adaptive behavior measures were not an integral part of assessment until about a decade ago (Reschly, 1982), they are now required. Such assessment is generally necessary before individuals are classified as mentally retarded and, increasingly, before handicaps other than mental retardation are diagnosed (Frankenberger, 1984; Huberty, Koller, & Ten Brink, 1980; Patrick & Reschly, 1982).

In recent years, a great deal of research investigating adaptive behavior has been conducted. Although the research has not been as voluminous as the research conducted with other types of assessment measures, such as intelligence or achievement measures, it has been quite extensive. Heath (1986) reported that 129 studies investigating adaptive behavior have been published in six major journals in mental retardation and school psychology during the last 10 years. Heath indicated, however, that most of the research addresses measurement and use of adaptive behavior scales and that there is a notable lack of research about the theory of adaptive behavior.

The purpose of this article is to present a review of research investigating adaptive behavior and general conclusions that can be drawn from the research. As Heath (1986) pointed out, most research concerns adaptive behavior scales, rather than theoretical aspects of adaptive behavior. It is felt, however, that this research provides valuable information about the following conceptual aspects of adaptive behavior:

- the relationship between adaptive behavior and intelligence,
- the relationship between adaptive behavior and school achievement,
- the relationships among various measures of adaptive behavior,

- the predictive aspects of adaptive behavior measures,
- declassification,
- group differences on adaptive behavior scales,
- the relationship between parents' and teachers' ratings of adaptive behavior,
- factorial dimensions of adaptive behavior,
- the effects of training adaptive skills, and
- stability and interrater reliability and agreement of adaptive behavior measures.

Many of the research studies have concerned mentally retarded individuals. Adaptive behavior assessment is conducted with this population more than any other, and federal, state, and local guidelines concerning adaptive behavior scales are typically addressed to the mentally retarded. A great deal of research has also been conducted with normal individuals because it is, of course, necessary to understand adaptive behavior of the normal population before drawing conclusions, if any, about the nature of adaptive behavior for the handicapped. There are also several research studies concerned with adaptive behavior of handicapped individuals such as the emotionally and behaviorally disturbed, learning disabled, and hearing and visually handicapped.

As indicated by the list of adaptive behavior scales in Table 1, there are quite a few scales used in research. Meyers, Nihira, and Zetlin (1979), however, listed additional scales and indicated that some sources reported as many as 132 scales, some published and some developed informally. The number of scales has, of course, increased in recent years.

Certain limitations of this research review should be noted. First, it was impossible to locate all reports of adaptive behavior research. Nevertheless, the research reviewed on the following pages does cover key aspects of major research trends. Similarly, this report does not include all of the research located—or every aspect investigated in that research. For the sake of brevity and clarity, the research was categorized into nine categories; research which fell outside these categories was not included. In addition, no attempt was made in this review to report the adequacy of the research methodology used in the studies. Unfortunately, some studies are characterized by inadequate methodology such as small sample size and inappropriate statistical techniques. On the other hand, many of the studies had few, if any, problems. Finally, adaptive behavior has a broad meaning, and constructs such as social skills, personal competency, and adaptation to environment could logically be subsumed under, or equated to, the term “adaptive behavior.” This article, however, focuses on adaptive behavior as it is defined by the American Association on Mental Deficiency (Grossman, 1983) and by Public Law 94-142 (1977).

## RELATIONSHIP WITH INTELLIGENCE

Because of requirements that deficits in both intelligence and adaptive behavior must be substantiated before a person is classified as mentally retarded, one of the major interests of adaptive behavior researchers has been to investigate the relationship between intelligence and adaptive behavior measures.

TABLE 1  
LIST OF ADAPTIVE BEHAVIOR SCALES USED IN THE RESEARCH PRESENTED IN THIS ARTICLE

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Adaptive Behavior Checklist (Schwartz, Allen, & Cortazzo, 1974)
AAMD Adaptive Behavior Scale (Nihira, Foster, Shellhaas, & Leland, 1975)
AAMD Adaptive Behavior Scale, Public School Version (Lambert, Windmiller, Cole, & Figueroa, 1975a)
AAMD Adaptive Behavior Scale, School Edition (Lambert & Windmiller, 1981)
Adaptive Behavior Inventory for Children (Mercer & Lewis, 1978)
Adaptive Functioning Index (Marlett & Hughson, 1971)
Balthazar Scales of Adaptive Behavior (Balthazar, 1973)
Behavior Development Survey (Arndt, 1981)
Behavior Rating Inventory for the Retarded (Sparrow & Cicchetti, 1978)
Behavior Rating Profile (Brown & Hammill, 1978)
Cain-Levine Social Competency Scale (Cain, Levine, & Elzey, 1963)
Children's Adaptive Behavior Scale (Richmond & Kicklighter, 1980)
Client Development Evaluation Report (California State Department of Developmental Services, 1978)
Minnesota Developmental Programming System (Bock & Weatherman, 1975)
Personal Competence Profile (Greenspan, 1982)
Personal Competency Scale (Reynolds, 1981)
San Francisco Vocational Competency Scale (Levine & Elzey, 1968)
Scales of Independent Behavior (Bruininks, Woodcock, Weatherman, & Hill, 1984)
Social and Prevocational Information Battery (Irvin, Halpern, Raffeld, & Link, 1975)
Vineland Adaptive Behavior Scales, Interview Edition, Survey Form (Sparrow, Balla, & Cicchetti, 1984a)
Vineland Adaptive Behavior Scales, Interview Edition, Expanded Form (Sparrow, Balla, & Cicchetti, 1984b)
Vineland Adaptive Behavior Scales, Classroom Edition (Sparrow, Balla, & Cicchetti, 1985)
Vineland Social Maturity Scale (Doll, 1935, 1965)
Vocational Adaptation Rating Scale (Malgady, Barcher, Davis, & Towner, 1980a)
Weller-Strawser Scales of Adaptive Behavior (Weller & Strawser, 1981)

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Although intelligence and adaptive behavior scales have many similarities in purposes and uses, several basic differences in the two types of scales warrant this type of investigation. According to Meyers et al. (1979), the measurement of intelligence and adaptive behavior differs in several respects, including the following: (1) Intelligence scales emphasize thought processes while adaptive behavior scales emphasize everyday behavior, (2) intelligence scales measure maximum performance or potential while adaptive behavior scales measure typical performance, and (3) intelligence scales presume a stability in scores while adaptive behavior scales presume modifiability in performance.

Table 2 includes the results of many studies that investigated the relationship between intelligence and adaptive behavior. The correlation coefficients presented in Table 2 range from .03 to .91, but the majority of correlations fall in the moderate range. The correlations vary widely according to the type of adaptive behavior scale, intelligence scale, and sample used. It is difficult to see any major trends across the correlations, with the exception of lower correlations for maladaptive sections of scales than for adaptive sections. There may be a slight

TABLE 2  
CORRELATIONS BETWEEN ADAPTIVE BEHAVIOR AND INTELLIGENCE MEASURES

Adaptive Behavior Measure	Intelligence Measure	Correlation <sup>a</sup>	Sample	Study
AAMD Adaptive Behavior Scales <sup>b</sup>				
Part 1	Unspecified	.75	Institutionalized mentally retarded people	Malone & Christian (1974)
Part 1	Unspecified	.66	Institutionalized mentally retarded people	Roszkowski and Bean (1980)
Part 2		.22		
Part 2	Uzgiris and Hunt Scales	.03 to .63	Severely and profoundly retarded children	Kahn (1983)
AAMD Adaptive Behavior Scale School Edition				
Part 1	Unspecified	.18 to .63	Normal, educable mentally retarded, and trainable mentally retarded people	Lambert (1981)
Adaptive Behavior Checklist	Unspecified	.46 to .69	Institutionalized mentally retarded people	Schwartz and Allen (1974)
Adaptive Behavior Inventory for Children <sup>c</sup>	Unspecified	.68	Mentally retarded children	Childs (1982)
	McCarthy Scales	.47	Normal children	Harrison (1981)
	WISC-R	.13	Normal children	Mercer (1979)
	WISC-R	.28	Normal children	Oakland (1980) Oakland and Feigenbaum (1980)
	Unspecified	.83	Normal children	Popoff-Walker (1982)
	WISC-R	.19	Normal children	Sapp, Horton, McElroy, and Ray (1979)
Adaptive Functioning Index	Unspecified	.33	Mentally retarded people in community setting	Hull and Thompson (1980)
Balthazar Scales of Adaptive Behavior II	Unspecified	.40	Institutionalized mentally retarded people	Balthazar and Phillips (1976)

TABLE 2  
(CONTINUED)

Adaptive Behavior Measure	Intelligence Measure	Correlation <sup>a</sup>	Sample	Study
Children's Adaptive Behavior Scale	WISC-R	.51	Educable mentally retarded and slow learning children	Kicklighter, Bailey, and Richmond (1980)
Personal Competency Scale	Unspecified	.61	Mentally retarded people in community setting	Reynolds (1981)
Scales of Independent Behavior	Woodcock-Johnson	.78 to .91	Normal and handicapped individuals	Buininks, Woodcock, Weatherman, and Hill (1985)
Social and Prevocational Information Battery	Unspecified	.37 to .57	Educable mentally retarded children	Halpern, Raffeld, Irvin, and Link (1975)
Vineland Adaptive Behavior Scales, Classroom Edition	WISC-R	.59	Behaviorally disordered children	Mealor (1984b)
	Woodcock-Johnson	.40	Head Start children	Arffa, Rider, and Cummings (1984)
	Stanford-Binet	.49	Head Start children	Arffa, Rider, and Cummings (1984)
	WISC-R	.31 to .43	Normal children	Guidubaldi, Clemenshaw, Perry, and Kehle (1983)
	Kaufman Assessment Battery for Children	.51	Normal children	Harrison (1985)
Vineland Adaptive Behavior Scales Survey Form <sup>d</sup>				
Adaptive behavior Maladaptive behavior	Unspecified	.42 to .82 -.20	Institutionalized mentally retarded people	Durham (1982)
Adaptive behavior Maladaptive behavior	Unspecified	.78 to .91 .16	Institutionalized mentally retarded people	Kopp, Rice, and Schumacher (1983)
Adaptive behavior	Unspecified	.41	Developmentally delayed preschool children	Harrison and Ingram (1984)
Adaptive behavior	Woodcock-Johnson	.25	Head Start children	Arffa, Rider, and Cummings (1984)
Adaptive behavior	Stanford-Binet	.32	Head Start children	Arffa, Rider, and Cummings (1984)

TABLE 2  
(CONTINUED)

Adaptive Behavior Measure	Intelligence Measure	Correlation <sup>a</sup>	Sample	Study
Adaptive behavior	Kaufman Assessment Battery for Children	.32	Normal children	Harrison and Kamphaus (1984)
Vineland Social Maturity Scale	Stanford-Binet	.82	Institutionalized mentally retarded children	Congdon (1969)
	Stanford-Binet	.68	Institutionalized mentally retarded people	Doll and McKay (1937)
	Unspecified	.76	Intermediate care facility residents	Witt (1981)
	Stanford-Binet	.50	Special education class children	Doll & McKay (1937)
	Stanford-Binet	.72	Delinquent adolescents	Springer (1941)
	WISC Full Scale	.45	Speech impaired children	Fromme (1974)
	Stanford-Binet	.63	Speech impaired children	Fromme (1974)
	Stanford-Binet	.83	Normal adults	Doll (1953)
	Stanford-Binet	.80	Normal adolescents	Doll (1953)
	Stanford-Binet	.40	Normal children	Hartlage, Noonan, and Proefrock (1982)
	Stanford-Binet	.83	Normal children	Doll (1953)
	Stanford-Binet	.38	Normal children	Louittit and Watson (1941)
	Stanford-Binet	.90	Normal children	Wilson (1939)

<sup>a</sup>Unless otherwise specified, if a single correlation is reported for an adaptive behavior and intelligence measure, it is for the total scores of the two measures. If a range of correlations (e.g., .03 to .63) is reported, several scores for the two measures were intercorrelated.

<sup>b</sup>A study by Whorton and Algozzine (1978) reported low correlations between AAMD Adaptive Behavior Scale scores and unspecified intelligence measures but did not report the actual values.

<sup>c</sup>A study by Kazimour and Reschly (1981) reported low correlations (only 4 out of 135 correlations were significant) between the Adaptive Behavior Inventory for Children and WISC-R but did not report actual values.

<sup>d</sup>Sparrow et al. (1984c) reported many correlations between the Vineland Adaptive Behavior Scales, Survey Form, and intelligence for samples of mentally retarded adults and hearing impaired, visually handicapped, and emotionally disturbed children used in the standardization of this scale. For the sake of brevity, these correlations are not reported here, but the correlations range from -.02 to .82 and, according to Sparrow et al. (1984c), exhibit a tendency to increase as handicaps become more severe.

trend toward higher correlations between intelligence and adaptive behavior for more severely handicapped samples, but there are several exceptions to this trend.

Harrison, Keith, Fehrman, and Pottebaum (1986) investigated the moderate nature of the correlation between intelligence and adaptive behavior by using factor analysis to explore three hypotheses: that intelligence and adaptive behavior represent the same underlying constructs, two unrelated constructs, or two separate but related constructs. The Vineland Adaptive Behavior Scales, Survey Form, and Kaufman Assessment Battery for Children were utilized in the analyses, and the results supported the hypothesis that adaptive behavior and intelligence are separate but related constructs.

### RELATIONSHIP WITH SCHOOL ACHIEVEMENT

Academic learning is among the central purposes of education, and most children are referred for possible placement in special education classes because of problems with learning. When these children, especially those who may be mentally retarded, are evaluated by a multidisciplinary team, an adaptive behavior assessment is usually conducted. However, there is disagreement about whether adaptive behavior is expected to be related to the problem for which these children were referred, deficiencies in academic learning (Mercer, 1979; Witt & Martens, 1984).

Several studies have examined the relationship between adaptive behavior and academic achievement. Christian and Malone (1973) investigated the relationship between the AAMD Adaptive Behavior Scale and the Wide Range Achievement Test for a sample of institutionalized mentally retarded children and adolescents in a special education program and found low correlations, ranging from  $-.18$  to  $.11$ . In a study with the Adaptive Behavior Scale-School Edition, Lambert (1981) reported correlations ranging from  $.20$  to  $.60$ , with scales such as the Wide Range Achievement Test and the Stanford and SRA reading and math achievement tests for a sample of normal and educable and trainable mentally retarded children. Oakland (1980) and Sapp, Horton, McElroy, and Ray (1979) found low correlations between the Adaptive Behavior Inventory for Children and the California Achievement Tests for samples of normal children. Harrison (1981) reported a moderate correlation of  $.32$  between the Adaptive Behavior Inventory for Children and the Metropolitan Achievement Test for a sample of first-grade children. Harrison and Kamphaus (1984) found a correlation of  $.37$  between the Vineland Adaptive Behavior Scales, Survey Form, which is administered to parents, and the Kaufman Assessment Battery for Children (Achievement Scale), and Harrison (1985) indicated a higher correlation ( $.57$ ) between the Vineland Adaptive Behavior Scales, Classroom Edition, which is administered to teachers, and the Kaufman Assessment Battery for Children (Achievement Scale).

Although Harrison (1981) reported a moderate correlation between adaptive behavior and achievement, with multiple regression analysis she found that ratings of adaptive behavior did not significantly increase the prediction of achievement beyond the prediction obtained with an intelligence measure alone.

Similarly, Oakland (1983) found that adaptive behavior did not significantly improve the prediction of achievement above that of intelligence. However, Keith, Harrison, and Ehly (1986), using path analysis instead of multiple regression analysis, gathered evidence that adaptive behavior (as measured by the Vineland Adaptive Behavior Scales, Survey Form) has a significant and important effect on achievement (as measured by the Kaufman Assessment Battery for Children) beyond that accounted for by intelligence.

Reschly (1982) suggested that the construct of adaptive behavior consists of two components: adaptive behavior in school (classroom observation, work samples, teacher interviews, achievement tests) and adaptive behavior outside school (inventories such as the Adaptive Behavior Inventory for Children and Vineland Adaptive Behavior Scales, Survey Form). The studies by Harrison and Kamp-haus (1984) and Harrison (1985) suggest that because teacher ratings correlate higher with academic achievement than parents' ratings, the component of adaptive behavior/school should be expected to be a better predictor of academic achievement than adaptive behavior/outside school. This possibility is also supported by a study conducted by Lambert and Nicoll (1978). In this study, scores from the Pupil Behavior Rating Scales, which measures classroom behaviors such as fighting, following directions, and distraction, exhibited significant correlations with first- and second-grade reading scores.

## RELATIONSHIPS BETWEEN ADAPTIVE BEHAVIOR MEASURES

Several investigators have explored the relationship between pairs of different adaptive behavior scales, as shown in Table 3. Although this type of investigation has usually been conducted in efforts to support criterion-related evidence of validity of adaptive behavior scales, many of the studies reported only moderate correlations between scales. Although high correlations are often reported for intelligence measures, these high correlations may be due, in part, to the high loadings of *g* or general intelligence on each intelligence scale (Kaufman & Harrison, 1986). According to Meyers et al. (1979), adaptive behavior scales are generally not developed on the basis of a unitary or general adaptive behavior factor. Therefore, the failure to find high correlations between all adaptive behavior scales may be due to the lack of a general unitary adaptive behavior factor, as well as to the different theoretical frameworks on which adaptive behavior scales are based, the different standardization samples employed for the development of the scales, and the different methods of developing derived scores.

## PREDICTIVE ASPECTS OF ADAPTIVE BEHAVIOR SCALES

Several studies about adaptive behavior supported the utility of adaptive behavior measures in predicting concurrent or future performance. However, these studies involved just a few of the many adaptive behavior scales available. Halpern, Irvin, and their colleagues (Halpern, Irvin, & Landman, 1979; Halpern, Raffeld, Irvin, & Link, 1975; Irvin & Halpern, 1977; Irvin, Halpern, & Reynolds, 1977), using samples of mentally retarded individuals, found that the



TABLE 3  
CORRELATIONS BETWEEN ADAPTIVE BEHAVIOR MEASURES

Adaptive Behavior Measures	Correlations <sup>a</sup>	Sample	Study
AAMD Adaptive Behavior Scale Personal Competency Scale	.75	Mentally retarded people in community settings	Reynolds (1981)
AAMD Adaptive Behavior Scale San Francisco Vocational Competency Scale	.69	Mentally retarded people in community settings	Carsrud, Carsrud, Dodd, Thompson, and Gray (1981)
AAMD Adaptive Behavior Scale Vineland Adaptive Behavior Scales, Survey Form	.40 to .70	Institutionalized mentally retarded adults	Bolen, Childers, and Durham (1984)
AAMD Adaptive Behavior Scale Vineland Social Maturity Scale	.79	Institutionalized mentally retarded people	Roszkowski (1980)
AAMD Adaptive Behavior Scale Wisconsin Behavior Rating Scale	.45	Institutionalized mentally retarded people	Song et al. (1984)
AAMD Adaptive Behavior Scale, Public School Version Adaptive Behavior Inventory for Children	.53	Educable mentally retarded children	Spivack (1980)
AAMD Adaptive Behavior Scale, School Edition Adaptive Behavior Inventory for Children	.41	Slow learners and educable mentally retarded children	Heath and Obrzut (1986)
AAMD Adaptive Behavior Scale, School Edition Children's Adaptive Behavior Scale	.60	Slow learners and educable mentally retarded children	Heath and Obrzut (1986)
AAMD Adaptive Behavior Scale, School Edition Vineland Adaptive Behavior Scales, Classroom Edition	.93	Trainable mentally retarded children	Bensberg and Irons (1984)
AAMD Adaptive Behavior Scale, School Edition Vineland Adaptive Behavior Scales, Classroom Edition	.22 to .45	Normal children	Mealor (1984b)
AAMD Adaptive Behavior Scale, School Edition Vineland Adaptive Behavior Scales, Classroom Edition	.16	Developmentally handicapped children	Ronka (1984)
AAMD Adaptive Behavior Scale, School Edition Vineland Adaptive Behavior Scales, Survey Form	.80	Trainable mentally retarded children	Bensberg and Irons (1984)
AAMD Adaptive Behavior Scale, School Edition Vineland Adaptive Behavior Scales, Survey Form	.08	Developmentally handicapped children	Ronka (1984)

TABLE 3  
(CONTINUED)

Adaptive Behavior Measures	Correlations <sup>a</sup>	Sample	Study
Adaptive Behavior Inventory for Children Behavior Rating Profile	.31	Normal children	Soyster and Ehly (1986)
Adaptive Behavior Inventory for Children Children's Adaptive Behavior Scale	.63	Slow learners and educable mentally retarded children	Heath and Obrzut (1986)
Adaptive Behavior Inventory for Children Vineland Adaptive Behavior Scales, Survey Form	.58	Normal children	Bracken et al. (1984)
Fairview Social Skills Scale Wisconsin Behavior Rating Scale	.93	Institutionalized mentally retarded people	Song et al. (1984)
Scales of Independent Behavior AAMD Adaptive Behavior Scale, School Edition	.27 to .87	Normal children	Bruininks, Woodcock, Weatherman, and Hill (1985)
Vineland Adaptive Behavior Scales, Classroom Edition Psychosocial Competence, Incomplete Stories Test, Sociometric data	.29 to .61	Normal children	Konz (1983)
Vineland Adaptive Behavior Scales, Classroom Edition Vineland Social Maturity Scale	.57 to .66	Educable and trainable mentally retarded children	Britton and Eaves (1986)
Vineland Adaptive Behavior Scales, Survey Form Behavior Development Survey	.86 to .92	Institutionalized mentally retarded adults	Kopp et al. (1983)
Vineland Adaptive Behavior Scales, Survey Form Vineland Social Maturity Scale	.88	Hearing impaired children	Altepeter and Moscato (1982)
Vineland Adaptive Behavior Scales, Survey Form Vineland Social Maturity	.97	Institutionalized mentally retarded adults	Bolen, Childers, and Durham (1984)
Vineland Adaptive Behavior Behavior Scales, Survey Form Vineland Social Maturity Scale	.53	Institutionalized mentally retarded adults	Childers and Bolen (1985)
Vineland Adaptive Behavior Scales, Survey Form Vineland Social Maturity Scale	.55	Normal children	Sparrow, Balla, and Cicchetti (1984c)
Vineland Social Maturity Scale Wisconsin Behavior Rating Scale Scale	.97	Institutionalized mentally retarded people	Song et al. (1984)

<sup>a</sup>Unless otherwise specified, if a single correlation is reported for the two adaptive behavior measures, it is for the total scores of the two measures. If a range of correlations (e.g., .29 to .61) is reported, several scores for the two measures were intercorrelated.

Social and Prevocational Information Battery, a knowledge measure which is administered directly to the person being assessed, exhibited high correlations with concurrent vocational performance, postschool adjustment ratings of vocational rehabilitation counselors, concurrent levels of community adaptation, and group home behavior. Malgady, Barcher, Davis, and Towner (1980b) reported significant correlations between the Vocational Adaptation Rating Scale and concurrent placement levels in a sheltered workshop and placement levels 1 year later. Futterman and Arndt (1983) found significant correlations between the Behavior Development Survey and vocational and academic program participation by a sample of institutionalized mentally retarded people. In a study by Cunningham and Presnall (1978), significant correlations were found between performance on the AAMD Adaptive Behavior Scale and salaries of mentally retarded employees in sheltered workshops. Eyman, Domaine, and Lei (1979) found that the conformity to normality in community settings was significantly related to increases on the AAMD Adaptive Behavior Scale for mentally retarded people.

A study by Fletcher (1979) did not actually support the predictive utility of adaptive behavior measures but it did indicate how one particular variable had little relationship with an adaptive behavior measure. Fletcher investigated the relationship between the number of times a sample of institutionalized mentally retarded people were visited by family and AAMD Adaptive Behavior Scale scores of the sample, and found no significant relationship.

## DECLASSIFICATION

As indicated by Reschly (1982), an unresolved issue in adaptive behavior assessment is declassification, or the ineligibility of students for special education programs for the mildly retarded. For many years, children were placed in the special education programs solely on the basis of intelligence test scores. Federal and state legislation now requires that children must exhibit deficits in both intelligence and adaptive behavior before being classified. Declassification occurs when children who were or would have been eligible for mental retardation classification because of low intelligence scores are no longer eligible because they exhibit adequate adaptive behavior. Declassification, while preventing these children from receiving the perhaps negative label of mental retardation, also prevents these children from receiving special educational services they may need. Although there is evidence that intelligence test scores still receive greater weighting than adaptive behavior scores in classification decisions (Smith & Knoff, 1981), studies which address the issue of declassification are sorely needed.

Only a few studies have attempted to investigate possible outcomes in using intelligence tests and adaptive behavior scores jointly in the classification of mentally retarded children. These studies investigated *possible* outcomes, however, and did not explore instances of actual cases of declassification. Childs (1982) found that 80% of a sample of educable mentally retarded children would have been declassified if Adaptive Behavior Inventory for Children scores had been a criterion for classification.

Fisher (1978) found that 60% to 75% of a sample of educable mentally retarded children would have been declassified if the Adaptive Behavior Inventory for Children had been used. In a study by Reschly (1981), a group of children who would have been classified as mentally retarded with WISC-R scores as the only criterion would have decreased by 96% if WISC-R and Adaptive Behavior Inventory for Children scores had been used as the criteria. Adams, McIntosh, and Weade (1973) found that more black children would have been classified as mentally retarded if intelligence test scores had been used than if Vineland Social Maturity Scale scores had been used.

### GROUP DIFFERENCES ON ADAPTIVE BEHAVIOR MEASURES

Another important area in adaptive behavior research has been the exploration of group differences on adaptive behavior measures. For this article, the group differences are presented in three categories: race and ethnic group differences (e.g., black versus white), classification (or diagnostic) group differences (e.g., mentally retarded versus learning disabled), and differences between groups placed in different settings (e.g., group home versus residential school settings). The results of studies which investigated group differences are briefly summarized in Tables 4, 5, and 6. These studies generally utilized one of two statistical procedures to determine group differences: direct comparison between the groups using a *t* test, ANOVA, MANOVA, and similar methods; or discriminant analysis to determine if an adaptive behavior measure discriminated between groups and discriminant functions correctly identified group members.

The determination of group differences is important for adaptive behavior research for two basic reasons. First, as indicated by Thorndike (1982), the construct validity of a scale is supported if groups that should differ on the construct being measured actually do differ. Second, group differences provide information for diagnostic and clinical uses of the scale. For example, evidence indicating that educable mentally retarded children differ from learning disabled children in terms of adaptive behavior has practical utility for professionals who use adaptive behavior scales for placement in special education programs. Evidence indicating that adaptive behavior scales discriminate among successful and unsuccessful residents of group homes is valuable information for professionals who make decisions about group home placement.

When reviewing the results of studies included in Tables 4, 5, and 6, the reader should keep two things in mind. First, in many instances, the studies do not indicate or did not investigate whether the differences in adaptive behavior were the result of group membership (e.g., mentally retarded people in work preparation settings had higher adaptive behavior than mentally retarded people in school settings because the work preparation increased adaptive behavior skills) or if the differences in adaptive behavior existed before the people were placed in groups (e.g., mentally retarded people were placed in work preparation settings instead of school settings because they had higher adaptive behavior). Second, more information about group differences was typically reported in the studies than was summarized in Tables 4, 5, and 6. For example, the Sparrow, Balla, and Cicchetti (1984c) study reported that mentally retarded adults typically had lower

performance in communication than in other areas of adaptive behavior and emotionally disturbed children had lower performance in socialization than in other areas. The reader is urged to refer to the original report of the study for this additional information.

### *Race and Ethnic Group Differences*

Table 4 includes the results of studies investigating race and ethnic group differences on various adaptive behavior scales. With two exceptions, the studies indicate that there are no notable race or ethnic group differences on adaptive behavior scales. The Kazimour and Reschly (1981) study reported that the Native American children scored lower than white, black, or Hispanic children on the

TABLE 4  
RACE AND ETHNIC GROUP DIFFERENCES ON ADAPTIVE BEHAVIOR MEASURES

Adaptive Behavior Measure	Groups	Results	Study
AAMD Adaptive Behavior Scale, Public School Version	Black and white children	Blacks higher than whites on one Part 1 domain	Bailey and Richmond (1979)
	Different ethnic groups of children	No differences on Part 1, Differences on Part 2	Lambert, Windmiller, Cole, and Figueroa (1975b)
Adaptive Behavior Inventory for Children	White, black, Hispanic, and native American children	Native Americans scored lower than other three groups	Kazimour and Reschly (1981)
Adaptive Behavior Inventory for Children	Black, Hispanic, and white children	No differences	Mercer (1979)
Vineland Adaptive Behavior Scales, Classroom Edition	Different race and ethnic groups of children	No race differences, but ethnic group differences	Harrison (1985)
Vineland Adaptive Behavior Scales, Survey Form	Black and white children	No differences	Calnon (1984)
	Different race and ethnic groups of children	No race differences, but ethnic group differences	Sparrow et al. (1984c)
Vineland Social Maturity Scale	Black and white children	No differences	Adams et al. (1973)
	Black and white children	No race differences for mentally retarded children, but race differences for normal children	Slate (1983)

Adaptive Behavior Inventory for Children and Sparrow et al. (1984c) and Harrison (1985) indicated that, while no race differences were found on the Vineland Adaptive Behavior Scales, SES group (defined by parental education level) differences were evident.

The finding of few race or ethnic group differences on adaptive behavior scales has implications for the issue of nonbiased assessment. Requirements for the assessment of adaptive behavior in addition to the assessment of intelligence for classifying children as mentally retarded were partially the result of criticisms concerning bias in intelligence tests and placement of disproportionately large numbers of minority children in special education classes for the mentally retarded (Mercer, 1973, 1979). In general, reports of differences between intelligence test scores of whites and minority groups indicate moderately to substantially lower scores for minority groups (e.g., Jensen, 1980; Kaufman & Doppelt, 1976; Kaufman & Kaufman, 1983; Mercer, 1979; Sattler, 1982). The finding that performance on adaptive behavior measures is not substantially different for these groups adds support for the use of adaptive behavior scales in nonbiased or least-biased assessment.

### *Classification Group Differences*

Table 5 presents the results of many studies which investigated the differences between individuals in different classification or diagnostic groups, for example, between normal, educable mentally retarded, and trainable mentally retarded children or Down syndrome and non-Down syndrome institutionalized mentally retarded people. These studies, in general, suggest that groups that are expected to differ on adaptive behavior measures do in fact differ. Some studies were more exploratory in nature; investigations were conducted with groups about which little was known in terms of their adaptive behavior. The studies give insights about levels of performance which may be different (or not) for different groups of individuals and information useful for professionals who classify handicapped individuals.

The results in Table 5 indicate several noteworthy trends in the adaptive behavior of different classification groups. Many studies indicate that normal individuals have higher performance than mentally retarded individuals. Slow learners and learning disabled children, as well, exhibit greater levels of adaptive behavior than mentally retarded children. Within the mentally retarded groups, educable mentally retarded children are higher than trainable mentally retarded children. Idiot savants and individuals with Down syndrome perform better in some areas than other mentally retarded individuals and adaptive behavior measures discriminate among different levels of psychiatric impairment in the mentally retarded. Hearing impaired and emotionally disturbed children perform better than visually handicapped children and normal children have higher scores than children with atypical mild personality development and behavior disorders. Finally, adaptive behavior scales distinguish between different subtypes of learning disabilities and between children who had and did not have meningitis.

TABLE 5  
CLASSIFICATION GROUP DIFFERENCES ON ADAPTIVE BEHAVIOR MEASURES

Adaptive Behavior Measure	Groups	Results	Study
AAMD Adaptive Behavior Scale	Idiot savants and institutionalized mentally retarded people	Idiot savants higher on four domains	Duckett (1977)
	Three groups of psychiatrically impaired institutionalized mentally retarded people	Six of twelve Part II domains discriminated among groups	Foster and Nihira (1969)
	Normal, educable mentally retarded and trainable mentally retarded children	Discriminant analysis identified correctly 86% of group membership	Gully and Hosch (1979)
	Normal and educable mentally retarded children	Normal higher than educable mentally retarded	Englemann (1974)
AAMD Adaptive Scale, Public School Version or School Edition	Average, slow learner, and educable mentally retarded children	Significant differences on five of nine Part 1 domains	Bailey and Richmond (1979)
	Slow learner and educable mentally retarded children	Slow learner higher than educable mentally retarded	Heath and Obrzut (1986)
	Normal, educable mentally retarded, and trainable mentally retarded children	Five factor scores correctly identified 63.2% to 79.2% of group membership	Lambert and Hartsough (1981)
Adaptive Behavior Inventory for Children	Slow learners and educable mentally retarded children	Slow learners higher than educable mentally	Heath and Obrzut (1986)
	Normal and mentally retarded children	Normal higher than mentally retarded	Slate (1983)
Children's Adaptive Behavior Scale	Slow learners and educable mentally retarded children	Slow learners higher than educable mentally retarded children	Heath and Obrzut (1986)

TABLE 5  
(CONTINUED)

Adaptive Behavior Measure	Groups	Results	Study
	Slow learner and educable mentally retarded children	Slow learners higher than educable mentally retarded children	Kicklighter, Bailey, and Richmond (1980)
Client Development Evaluation Report	Down syndrome and non-Down-syndrome institutionalized mentally retarded people	Down syndrome people had greater social competence and less maladaptive behavior	Silverstein et al. (1985)
Personal Competence Profile	Down syndrome and non-Down-syndrome institutionalized mentally retarded people	Down syndrome scored significantly higher on 6 out of 11 domains	Greenspan and Delaney (1983)
Scales of Independent Behavior	Various handicapped samples and normal sample including mentally retarded, learning disabled, behaviorally disordered, and hearing impaired	Handicapped sample scored lower than normal sample	Bruininks, Woodcock, Weatherman, and Hill (1985)
Vineland Adaptive Behavior Scales, Classroom Edition	Behaviorally disordered children and standardization sample	Behaviorally disordered children lower than standardization sample	Mealor (1984a)
	Learning disabled and mentally retarded children	Learning disabled higher than mentally retarded	Rainwater-Bryant (1985)
	Developmentally handicapped children and standardization sample	Developmentally handicapped children lower than standardization sample	Ronka (1984)
Vineland Adaptive Behavior Scales, Survey Form	Institutionalized mentally retarded adults and nonhandicapped standardization sample	Mentally retarded lower than standardization sample	Childers and Bolen (1985)



TABLE 5  
(CONTINUED)

Adaptive Behavior Measure	Groups	Results	Study
	Developmentally delayed preschoolers and standardization sample	Developmentally delayed preschoolers lower than standardization sample	Harrison and Ingram (1984)
	Learning disabled and mentally retarded children	Learning disabled higher than mentally retarded children	Rainwater-Bryant (1985)
	Developmentally handicapped children and standardization sample	Developmentally handicapped children lower than standardization sample	Ronka (1984)
	Hearing impaired, visually handicapped, and emotionally disturbed children	Hearing impaired and emotionally disturbed higher than visually handicapped	Sparrow et al. (1984c)
	Children with atypical mild personality development and normal children	Normal children higher than atypical mild children	Sparrow et al. (1986)
	Normal children and children who had meningitis during first 6 months of life	Normal children higher than meningitis children	Wald et al. (1985)
Vineland Social Scale	Normal and mentally retarded children	Normal higher than mentally retarded	Slate (1983)
Weller-Strawser Scales of Adaptive Behavior for the Learning Disabled Scale	Subtypes of learning disabled children	Differences found between different subtypes	Strawser and Weller (1985)

TABLE 6  
PLACEMENT GROUP DIFFERENCES ON ADAPTIVE BEHAVIOR MEASURES

Adaptive Behavior Measure	Groups	Results	Study
AAMD Adaptive Behavior Scale	Mentally retarded individuals referred and never referred for institutionalization	Discriminant analysis correctly identified 75.7% of group membership	Campbell, Smith, and Wool (1981)
	Institutionalized mentally retarded people in cottage and school placements	Differences between two groups on Part 1, no differences on Part 2	Epstein and Weber (1980)
	Institutionalized mentally retarded people in cottage and school placements	After 1 year in placement, higher score for cottage than school placement	MacEachron (1983)
	Institutionalized mentally retarded people in work preparation or school settings	Work trainees had higher scores than students on Part 1	Salagras and Nettelback (1984)
	Institutionalized mentally retarded people with high or low visual motor adaptation	People with higher visual-motor adaptation had higher scores on Factors I and II	Scheel and Galbraith (1980)
	Former residents, residents referred for discharge, and current residents of an institution for the mentally retarded	Scores discriminated among the three groups	Spreat (1981)
	Mentally retarded people successfully and unsuccessfully placed in group homes	Discriminant analysis correctly identified 88.8% of group membership	Taylor (1974, 1976)
	Mentally retarded people successfully and unsuccessfully placed in community settings	No differences except on social maladaptation factor	Thiel (1981)
	Institutionalized mentally retarded people rated in both classroom and cottage settings	Classroom ratings higher for five domains	Weber and Epstein (1980)

TABLE 6  
(CONTINUED)

Adaptive Behavior Measure	Groups	Results	Study
Behavior Development Survey	Mentally retarded people successfully and unsuccessfully placed in community settings	Significant differences between two groups in adaptive and maladaptive behavior	Sutter, Mayeda, Call, Yanagi, and Yee (1980)
	Institutionalized and deinstitutionalized mentally retarded people	Significantly better in adaptive behavior but not maladaptive behavior for deinstitutionalized people	Conroy, Efthimiou, and Lemanowicz (1982)
Vineland Adaptive Behavior Scales, Survey Form	Ambulatory and nonambulatory institutionalized mentally retarded adults and mentally retarded adults in community settings	Ambulatory higher than nonambulatory; adults in community setting higher than institutionalized adults	Sparrow et al. (1984c)

### *Placement Group Differences*

Table 6 includes the results of studies which investigated the differences in adaptive behavior between different groups of mentally retarded people who had been placed in different environmental settings. As indicated earlier, most studies did not indicate whether any adaptive behavior differences in groups were the result of being placed in particular settings or if the individuals were placed in particular settings because of differences in adaptive behavior. It is felt that, in most cases, an interaction between the two resulted in differences. This type of research, however, has many implications for practitioners who make placement decisions for mentally retarded individuals because they indicate that certain levels of adaptive behavior may be associated with placement or success in a particular setting and that placement in certain settings may be associated with gains in adaptive behavior.

Results of the studies listed in Table 6 indicate that adaptive behavior differences exist between mentally retarded individuals in institutional and community settings and between current residents of institutions and those residents who had been discharged or referred for discharge. Also, adaptive behavior scales differentiated between mentally retarded people who had been referred or had never been referred for institutional placement. Adaptive behavior differences were found between former institution residents who were successful or unsuccessful in community placements. Within institutional placements, adaptive behavior scales distinguished between individuals in different training programs and cottage or school settings.

### *Relationship between Parents' and Teachers' Scores on Adaptive Behavior Measures*

Most adaptive behavior measures utilize a "third-party informant" method of administration in which the adaptive behavior items are administered to an informant who is familiar with the daily activities of the individuals being assessed. Parents and teachers are typically used as informants for adaptive behavior scales, particularly when children in public school settings are being assessed. Some adaptive behavior scales used in public schools were designed specifically for use with parents (e.g., Sparrow, Balla, & Cicchetti, 1984a), and some for teachers (e.g., Sparrow, Balla, & Cicchetti, 1985).

Manuals for other adaptive behavior scales (e.g., Bruininks, Woodcock, Weatherman, & Hill, 1984; Lambert & Windmiller, 1981) indicate that the scales can be used with parents *or* teachers, although some of these scales were normed with only one of the two types of informants. The question of which informant to use is sometimes answered by practical considerations; teachers are often more available than parents to respond to adaptive behavior scales. However, the results of several studies which investigated the relationship between parents' and teachers' scores on adaptive behavior scales indicate that caution should be exercised when selecting the informant. Low to moderate correlations between parents' and teachers' scores were often found and several studies reported significant differences between parents and teachers.

Bailey (1979) found that parents of a sample of educable mentally retarded children gave significantly higher ratings than teachers on eight of nine domains on the AAMD Adaptive Behavior Scale, Public School Version. Hickman (1978) found significant correlations between parents and teachers of a sample of educable mentally retarded children for only two domains of the Adaptive Behavior Scale, Public School Version. Mayfield, Forman, and Nagle (1984) compared the AAMD Adaptive Behavior Scale, Public School Version, scores of parents, regular classroom teachers, and special education teachers for a sample of educable mentally retarded children. Significant differences were found between the three types of informants. The mean correlation between parents and regular classroom teachers was .67 and the mean correlation between parents and special education teachers was .50. In a study by Meador and Richmond (1980), parents and teachers of a group of moderately and severely mentally retarded children were rated by parents and teachers on the Adaptive Behavior Scale and Cain-Levine Social Competency Scale. Parents gave significantly higher scores than teachers on the Self-Help scale of the Cain-Levine and 5 of the 10 domains on the AAMD Adaptive Behavior Scale. Norman (1980) reported the positive results of training parents and teachers on the AAMD Adaptive Behavior Scale, Public School Version, before administration.

Ronka (1984) indicated a correlation of .06 between parents and teachers of a sample of developmentally handicapped children on the AAMD Adaptive Behavior Scale, School Edition, but no differences between the mean scores of the two informants.

Goodman (1978) found only one significant correlation between the AAMD Adaptive Behavior Scale (administered to teachers) and a research version of the Adaptive Behavior Inventory for Children (administered to parents) for a sample

of educable mentally retarded children. Heath and Obrzut (1984) found that, for a sample of slow learners and educable mentally retarded children, parents had higher scores than teachers on three domains of the Adaptive Behavior Inventory for Children and three domains of the AAMD Adaptive Behavior Scale, School Edition. In a study by Spivack (1980), mothers had higher scores than teachers on the AAMD Adaptive Behavior Scale, Public School version, for a group of educable mentally retarded children. Wall and Paradise (1981) indicated that mothers gave higher ratings than teachers on the Adaptive Behavior Inventory for Children for a sample of normal children.

Bruininks, Woodcock, Weatherman, and Hill (1985) investigated the relationship between parents and teachers of handicapped and normal children on the Scales of Independent Behavior. Correlations ranged between .41 and .91.

On the Vineland Adaptive Behavior Scales, several researchers administered the Survey Form to parents and the Classroom Edition to teachers and compared the results. Arffa, Rider, and Cummings (1984), with a sample of Head Start children, found no differences between average scores of parents and teachers but reported a correlation of  $-.05$  between the two informants. Harrison (1985) also reported no differences between average scores for parents and teachers of a sample of normal children and a correlation of .43 between the two informants. Furthermore, Harrison and Sparrow (1981) indicated that it was necessary for teachers to guess when responding to many items that involved adaptive behavior in the home and community. In a study with a group of learning disabled and mentally retarded children, Rainwater-Bryant (1985) found a correlation of .76 between parents' and teachers' scores and no significant differences between parents and teachers. Ronka (1984), with a sample of developmentally handicapped children, found a correlation of .32 between parents' and teachers' scores but no significant differences between the two types of informants.

Kaplan and Alatishe (1976) reported a correlation of .24 between parents and teachers of a sample of normal preschoolers on the Vineland Social Maturity Scale and a significant difference between the scores of the two groups of informants. Naas, Watts, Grissom, and Oshrin (1981) administered the Verbal Language Development Scale (a scale derived from the Vineland Social Maturity Scale) to mothers, fathers, and teachers of children with speech impairments. The correlation between mothers and teachers was .86; fathers and teachers, .77; and mothers and fathers, .82.

## FACTOR ANALYSIS

Several researchers have investigated the dimensions of adaptive behavior through factor analysis of various adaptive behavior scales. The results of these studies have yielded factors that are not entirely consistent from one adaptive behavior scale to the next, but the different factors probably reflect the different theoretical frameworks used to develop each scale. The multidimensional aspect of adaptive behavior, however, is supported in each study.

Factor analytic research with the AAMD Adaptive Behavior Scale and AAMD Adaptive Behavior Scale, Public School Version, identified two or three factors for Part 1 of the scale and two factors for Part 2 (Guarnaccia, 1976; Lambert &

Nicoll, 1976; Nihira, 1969a, 1969b, 1976). Nihira (1976) labeled five factors of adaptive behavior on the AAMD Adaptive Behavior Scale as personal self-sufficiency, community self-sufficiency, personal-social responsibility, personal adjustment, and social adjustment. Cunningham and Presnall (1978), however, found seven factors for the AAMD Adaptive Behavior Scale.

Schwartz and Allen (1974) identified seven factors for the Adaptive Behavior Checklist: feeding, ambulation, general self-care, language, conceptual ability, independent functioning, and socialization. Sparrow and Cicchetti (1978) found four factors for the Behavior Rating Inventory for the retarded: cognitive development, psychomotor development, social behavior, and self-control. Harrison (1982, 1985) and Sparrow et al. (1984c) identified four factors that generally corresponded to the four domains of the Vineland Adaptive Behavior Scales, Survey Form and Classroom Edition: communication, daily living skills, socialization, and motor skills.

Kim, Anderson, and Bashaw (1968) reported the three factors of academic, interpersonal, and emotional maturity for a set of items from several social maturity scales, including the Vineland Social Maturity Scale. Song et al. (1984) found the two factors of cognition and psychomotor for the Wisconsin Behavior Rating Scale.

## TRAINING ADAPTIVE BEHAVIOR SKILLS

One of the major reasons for the current emphasis on adaptive behavior assessment is the need for such information in planning interventions (Meyers et al., 1979). In fact, Leland, Shellhaas, Nihira, and Foster (1967) indicated that one of the primary reasons for using adaptive behavior scales is to obtain information for the training of the mentally retarded. Although the use of adaptive behavior assessment in planning intervention and educational programs has not received as much emphasis as its use for classification decisions, many agree that adaptive behaviors can be learned through training and that the inclusion of adaptive behavior in intervention programs can result in optimum growth and development for handicapped individuals (e.g., Coulter, 1980; Harrison, 1984; Soyster & Ehly, 1986).

Unfortunately, scant research has systematically investigated the effects of training adaptive behavior skills. Berdine, Murphy, and Roller (1977), Close (1981), and Nihira and Shellhaas (1970) described the training of adaptive behavior but provided no evidence of its effectiveness. Cole (1976) described a social learning curriculum but found no differences on the AAMD Adaptive Behavior Scale and Vineland Social Maturity Scale between mentally retarded children who had received the curriculum for 18 weeks and a control group that had not received the curriculum. Matson, DiLorenzo, and Esveltd-Dawson (1981), on the other hand, found greater gains for a group of institutionalized mentally retarded adults who had participated in an independence training program than for a group who had not participated in the program.

Although a specific training curriculum was not described, several studies showed differences in adaptive behavior for mentally retarded individuals who had been placed in settings designed to enhance adaptive behavior than for mentally retarded individuals who had not been placed in these settings. (Several of

the studies listed in Table 4 also indicated such differences.) King, Soucar, and Isett (1980) found that adaptive behavior (but not maladaptive behavior) on the AAMD Adaptive Behavior Scale increased for a group of mentally retarded adults from the time they were admitted to an institution to 1 to 1½ years after admission. Schwartz and Allen (1974) reported significant gains on the Adaptive Behavior Checklist over a 4-year period for a group of institutionalized mentally retarded people whose cottage parents received feedback from the scale and used it to informally plan intervention. MacEachron (1983) indicated that institutionalized mentally retarded individuals who had been placed in a more normalizing cottage setting had higher Adaptive Behavior Scale scores after 1 year than a group of individuals who remained in the traditional institution setting. In a study by Witt (1981), residents of an intermediate care facility showed greater gains over a 4-year period than a control group who had remained in an institutional setting.

Conroy, Efthimiou, and Lemanowiz (1982) compared a group of mentally retarded people who had been placed in community settings with a group who had remained in an institution. Only the deinstitutionalized individuals displayed significant growth in adaptive behavior. In a study by Thompson and Carey (1980), a group of mentally retarded individuals who had moved from an institution to a group home which focused on structured normal activities exhibited dramatic increases in intelligence and adaptive behavior, as measured by the Minnesota Developmental Program System. Aanes and Moen (1976) reported significant increases in adaptive behavior and decreases in maladaptive behavior on the AAMD Adaptive Behavior Scale for a group of individuals who had been placed in a group home.

## STABILITY AND INTERRATER RELIABILITY

Several studies have investigated the stability and interrater reliability of adaptive behavior measures. The studies discussed here found that, in general, the measures have adequate reliability or agreement. Nathan, Millham, Chilcutt, and Atkinson (1980) found agreement when the AAMD Adaptive Behavior Scale was administered to mildly retarded people, their peers, and their counselors, but did not find agreement for moderately retarded people. Isett and Spreat (1979) reported an average interrater reliability coefficient of .76 when the AAMD Adaptive Behavior Scale was used with a sample of institutionalized mentally retarded adults. Salagaras and Nettelbeck (1983) reported average interrater reliability coefficients of .80 for Part 1 and .52 for Part 2 of the AAMD Adaptive Behavior Scale for a sample of mentally retarded adolescents. Stack (1984) reported average intraclass correlation coefficients for different raters of .73 for Part 1 and .56 for Part 2 of the AAMD Adaptive Behavior Scale for institutionalized mentally retarded adults. Givens (1980) reported a correlation of .55 for the AAMD Adaptive Behavior Scale, Public School Version, for a group of scorers that received training and a group that did not receive training.

Sparrow and Cicchetti (1978) reported significant interrater agreement for 63 out of 68 items of the Behavior Rating Inventory for the Retarded for a sample of institutionalized mentally retarded children. Sparrow et al. (1984c) reported an interrater reliability coefficient of .75 for the Adaptive Behavior Composite of the

Vineland Adaptive Behavior Scales, Survey Form, for a group of nonhandicapped individuals. Song et al. (1984) reported intraclass correlation coefficients for different raters ranging from .89 to .99 for the Wisconsin Behavior Rating Scale.

Test-retest reliability or stability coefficients were reported as generally higher than interrater reliability coefficients. Givens and Ward (1982) reported that, for a sample of normal children, the AAMD Adaptive Behavior Scale, Public School Version, exhibited adequate test-retest reliability on all but one of the Part 1 domains but only three of the Part 2 domains. Isett and Spreat (1979) found an average test-retest reliability coefficient of .91 on the AAMD Adaptive Behavior Scale for a sample of institutionalized mentally retarded adults. Mayfield et al. (1984) reported, for a sample of educable mentally retarded children, average test-retest reliabilities of .91 for parents, .75 for regular classroom teachers, and .85 for special education teachers, using the AAMD Adaptive Behavior Scale, Public School Version.

Bruininks et al. (1985) reported test-retest reliability coefficients of .78 to .91 for the clusters of the Scales of Independent Behavior.

Kopp, Rice, and Schumacher (1983) found test-retest reliability coefficients ranging from .90 to .95 for the Vineland Adaptive Behavior Scales, Survey Form, and .90 to .96 for the Behavior Development Survey for a sample of institutionalized mentally retarded people. Sparrow et al. (1984c) reported a test-retest reliability coefficient of .88 for the Vineland Adaptive Behavior Scales, Survey Form, Adaptive Behavior Composite for a sample of normal individuals.

## CONCLUSIONS

The foregoing review of research investigating adaptive behavior suggests the following general conclusions:

1. There is a moderate relationship between adaptive behavior and intelligence.
2. Correlational studies indicate that adaptive behavior has a low relationship with school achievement, but the effect of adaptive behavior on achievement may be greater than the correlations indicate and adaptive behavior/in school may have a greater relationship with achievement than adaptive behavior/outside school.
3. There is typically a moderate to moderately high relationship between different measures of adaptive behavior.
4. Adaptive behavior is predictive of certain aspects of future vocational performance.
5. There is a possibility that use of adaptive behavior scales could result in the declassification of mentally retarded individuals, but no evidence was located that indicates that this is actually happening.
6. There are few race and ethnic group differences on adaptive behavior scales.
7. There are differences between parents' and teachers' ratings on adaptive behavior scales.
8. Adaptive behavior scales differentiate among different classification



groups such as normal, mentally retarded, slow learner, learning disabled, and emotionally disturbed individuals.

9. Adaptive behavior scales differentiate among mentally retarded people in different residential and vocational settings.
10. Adaptive behavior is multidimensional.
11. Adaptive behavior can be increased through placement in settings which focus on training adaptive behavior skills.
12. Adaptive behavior scales exhibit adequate stability and interrater reliability.

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