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ABSTRACT

The contributions of school classification--regular or educable mentally retarded (EMR)--sex, and ethnic status to domain scores from the Public School Version of the Adaptive Behavior Scale were investigated. Part One measures the development of personal independence in daily living, while Part Two measures maladaptive behavior related to personality and behavior disorders. Data were collected from over 1,600 regular and EMR subjects approximately equally distributed between the sexes among white, black and Spanish-speaking subjects aged 7 to 13. Domain scores were valid for differentiating among children of different adaptive behavior levels as inferred from class placement. Ethnic status was not a unique contributor to Part One domain scores when the effects of classification were accounted for. On the Part Two domains, ethnic status was a significant contributor to some domain scores, but not at all age levels. Sex made few unique contributions to domain scores on Part One of the scale, but was a significant factor on some domains of Part Two at some age levels. It was concluded that the scale was valid for differentiating among pupils assigned to regular and EMR classes from ages 7 to 12, and that there are common expectancies for personal independence and responsibility among boys and girls from different ethnic groups. (Author/BW)

Field Study of the Efficacy of the AAMD Adaptive Behavior Scale - Public School Version

Contributions of School Classification, Sex and Ethnic Status to Adaptive Behavior Assessment

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Substudy 2 of 5

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Contributions of School Classification, Sex and Ethnic Status to Adaptive Behavior Assessment - Nadine M. Lambert

Abstract

This study investigated the contributions of school classification (regular, EMR) and sex and ethnic status to domain scores from the Public School Version of the AAMD Adaptive Behavior Scale. For this investigation data were available from a sample of over 1600 regular and EMR subjects approximately equally distributed between the sexes among white, black and Spanish-background subjects from ages 7 to 13. The results replicated earlier findings that domain scores were valid for differentiating among children of different adaptive behavior levels as inferred from school classification status. Ethnic status was not a unique contributor to Part One domain scores when the effects of classification were accounted for. On the Part Two domains, ethnic status was a significant contributor to some domain scores, but not at all age levels. Similarly, sex made few unique contributions to domain scores on Part One of the Scale, but was a significant factor on some domains of Part Two at some age levels.

We concluded that the Scale was valid for differentiating among pupils assigned to regular and EMR classes from ages 7 to 12. The failure of sex and ethnic status to make contributions to Part One domain scores suggests that there are common expectancies for personal independence and responsibility among boys and girls from different ethnic groups.

From our analysis of the contributions of sex and ethnic status to the Part Two domains we inferred that difference in environmental tolerance for affective or emotional responses to the school or community environment was a more reasonable explanation than the inference that girls and boys or children from different cultural backgrounds were inherently different with respect to these behaviors.

The Public School Version of the AAMD Adaptive Behavior Scale is valid for assessing adaptive behavior of children in public school and relatively independent of effects attributable to sex or ethnic status.

Foreward

The study reported here was part of a program of research in Special Education by Nadine M. Lambert.

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This substudy of the grant is reproduced here in this form for distribution as a technical report under the grant, and in order to make complete findings available for others engaged in this research area. Results of this study are the sole responsibility of the investigators. Official endorsement of the California State Department of Education is not implied.

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Contributions of School Classification, Sex and Ethnic Status to Adaptive Behavior Assessment

Background

The assessment of adaptive behavior soon will become a regular part of evaluation of mental retardation in public school children. The assessment of social functioning is now mandatory for such evaluation, and its importance is highlighted by landmark court cases which have challenged the use of individual intelligence tests as the sole criterion for the assessment of mental retardation (Charles S. v. Board of Education, San Francisco, 97 Cal. Rptr. 422 (1971); Larry P. v. Wilson Riles, 343 F. Supp. 1306 (1972); Diana v. Cal. State Board of Education, consent decree USDC San Francisco (1973)). The public school standardization of the American Association on Mental Deficiency Adaptive Behavior Scale was a response to this need for complementary assessment procedures.

Assessment of social functioning requires observer judgement of a child's social skills. While methods of assessment which require children to report on their own social competency are feasible, such methods have not yet been developed for the measurement of adaptive behavior. Parents and teachers, both of whom have long term exposure to the child and opportunities to observe the child in a wide variety of roles, can be called upon to make judgements of the adaptive behavior of school age children. In the standardization of the regular version of the Adaptive Behavior Scale, the person responsible for the individual in the community or residential program was in the best position to provide assessments of adaptive behavior; for school children, teachers or parents can provide reliable observations and assessment of adaptive behavior functioning.

For the public school version of the Adaptive Behavior Scale, norms are

based on teacher judgements of children's social functioning. Our decision to select teachers as the observers and raters of adaptive behavior was supported both by the importance of activating teachers in the assessment process and by our recognition of teachers' general knowledge of children's functioning and their implicit criteria for evaluating children's behavior in school. Not only is it important to determine the validity of the scale for differentiating among handicapped and noramlly functioning children, but another major set of questions arises with respect to the extent to which differences in children's functioning as measured by the Adaptive Behavior Scale can be attributable to sex or ethnic status.

Objectives

The goals of the investigations reported here are to subject each domain to an analysis of the possible contribution of classification, sex or ethnic status to domain scores. If the contribution of sex or ethnic status to domain scores is significant when the effects of classification are controlled, there would be justification for examining possible differential impacts of environmental demands on males and females or on children of white, black or Spanish-speaking backgrounds. On the other hand, if the differences attributable to sex and ethnic status are not significant, one would have justification for concluding that the standards for socialization of children are comparable regardless of sex and ethnic status.

Method

Instrumentation

The measure for which these results are reported is the public school version (Lambert, Windmiller and Cole, 1975) of the 1974 Revision of the AAMD Adaptive Behavior Scale (Nihira, Leland, 1974). The Scale is composed of two parts. Part One of the Scale is organized along developmental lines, and is

designed to evaluate an individual's skills and habits in ten behavior domains considered important to the development of personal independence in daily living (66 items). Part Two of the Scale provides measures of maladaptive behavior related to personality and behavior disorders (44 items). The public school version differs from the regular version in that only those items which could be rated in a public school setting and which met the test of appropriateness for administration by classroom teachers were retained. This resulted in the deletion of the Domestic Activity domain from Part One and retention of the 9 remaining domains. On Part Two of the Scale the domains of Self Abusive Behavior and Sexually Aberrant Behavior were deleted, but the remaining 12 domains were judged to be appropriate for use in a public school setting. This modification in scale content resulted in a loss of 10 items from Part One and the deletion of 5 items from Part Two. Domain scores were computed on the basis of the retained items and each subjected to an analysis of the contribution of classification, sex and ethnic status. Computation of interval consistency reliabilities of domain scores for age and classification groups showed that the range of Part One reliabilities varied from .76 to .90 with a mean of .88 while the range of reliabilities from Part Two varied from .80 to .92 with a mean of .87.

Item validities of the public school version. The Manual (Lambert, Windmiller, Cole & Figueroa, 1975) of the public school version of the Scale (p. 41-42) presents the findings on the item validities for predicting school classification status controlling for sex and ethnic status. We compared item scores for regular and EMR (educable mentally retarded) pupils since differentiation of these subjects was considered a more definitive test of item validity than comparing the scores of regular and TMR (trainable mentally retarded) subjects or the scores of EMR and TMR pupils. In general these analyses showed

that 80 to 90 percent of the Part One items were significantly related ($p < .01$) to classification status from ages 7 through 12, and that 25 to 95 percent of the items on Part Two were equally as valid. In general, the number of valid items increased with age on Part Two, suggesting a greater extent of behavior disorders as EMR children grow older.

The results of the item analyses assessing the validity of the Scale led us to conclude that although Part One adaptive behavior item measures for regular and EMR pupils became less different with increasing age, the reverse appeared to be true for the behaviors assessed by the Part Two items. The Part Two item analyses suggested that difficulties in meeting the social expectancies of school might occur with similar frequency in regular and EMR children when they were 7 to 8 years of age, but that by age 11 differences between the social behavior of regular and EMR pupils are marked and that the EMR child's behavior becomes significantly more unacceptable.

Contribution of sex and ethnic status to item scores. The Manual (p.43-46) also reports the outcomes of the preliminary analyses of the partial correlations of sex with item score controlling for classification and ethnic status and the partial correlation of ethnic status with item scores controlling for sex and classification.

Sex contributed significantly ($p < .01$) to Part One item scores in 52 out of 396 instances (6 age levels x 66 items). Of these 52 significant effects attributable to sex, 27 were for items in the Domestic Activity Domain, an area of functioning which had been judged by the school district review teams as well as by teachers as difficult to rate because of inadequate opportunity to observe these behaviors. Ethnic status was a significant contributor only to 19 of 396 item analyses.

The Part Two item analyses resulted in 47 out of 294 (44 items x 6 age groups) significant effects attributable to sex and 38 analyses in which significant variance was attributable to ethnic group membership.

Contributions of Socio-economic Status and Population Density to Item Scores. We continued the item studies with an analysis of the contribution of population density and socio-economic status to item scores. When population density, percent of unemployment and average level of education were each correlated with the scores, controlling for the effects of class placement, sex, and ethnic status there were, in a practical sense, no significant results. The number of significant correlations did not warrant concern with the contributions of these demographic variables after the effects of classification, sex and ethnic status were considered.

We concluded from the item studies that the Scale had potential validity for differentiating EMR pupils from children assigned to regular classes and that sex and ethnic status should be explored further as unique contributors to variance in domain scores.

Subjects

The elementary school population was defined on the basis of 6 school and demographic variables. These were: 1) class placement (regular, educable mentally retarded and trainable mentally retarded), 2) age (children enrolled in 2nd through 6th grade), 3) sex, 4) population density of residence, 5) socio-economic status (census tract data on both percentage of unemployment and average education level, 6) and ethnic status (black, white, Asian and Spanish-speaking background). The proportion of pupils with the above characteristics in each school district in the state were evaluated using statewide school census information and schools representative of the state's population characteristics were identified.

A population of 2,200 children was selected with the objective of sampling approximately equal numbers of regular and EMR subjects, and a smaller representative sample of TMR pupils We also sampled equal numbers of males and females and an equivalent distribution of subjects in the major ethnic groups. The objective of the sampling procedures was to produce representative groups of male and female children of different ethnic backgrounds in the selected age range in the three classification groups rather than to identify a representative school population in which children in the special education categories were selected in the proportion of the total school population which these classifications represent. Table 1 presents the overall distribution of the population on which this report is based with respect to age, sex, classification, and ethnic status.

The data for the public school standardization were obtained in 1972, several years after the Diana v. California State Board of Education consent decree required school district reports of the ethnic representation in special programs and a year after the State Legislature required a reevaluation of all pupils in programs for the EMR. These procedures supported our confidence in the appropriateness of the placements of all of the EMR subjects. To affirm additionally the status of the EMR subjects, we analyzed the IQ distributions of these pupils at the conclusion of the data collection. These distributions showed that only 4, 3, and 3 percent respectively of the white, black, and Spanish background subjects had an IQ score higher than 2 standard deviations below the mean including the standard error of measurement.

Data Analysis

We determined the unique and joint contributions of classification, sex,

TABLE 1

Sampling Distribution of Public School Regular and EMR Subjects

Age	Ethnic Status	Classification				Total
		Regular		EMR		
		Male	Female	Male	Female	
12 - 13	White	12	5	26	17	60
	Black	8	6	22	21	57
	Spanish	10	3	26	18	57
11 - 12	White	48	34	32	[illegible]	134
	Black	25	25	47		121
	Spanish	35	24	33	21	113
10 - 11	White	49	43	34	34	160
	Black	24	11	28	24	87
	Spanish	31	26	25	22	104
9 - 10	White	36	30	28	21	115
	Black	20	30	29	17	96
	Spanish	32	26	21	17	96
8 - 9	White	32	25	29	21	107
	Black	29	30	18	22	99
	Spanish	29	24	22	8	83
7 - 8	White	26	24	17	6	73
	Black	19	22	12	10	63
	Spanish	17	10	14	6	47
Total		482	398	464	329	1673

and ethnic status to domain scores using multiple regression solutions following the logic of Cohen (1968) and Darlington (1968). These procedures make possible inferences regarding the significance of variance attributable to a variable when the effects of other variables of interest are accounted for. The unique predictive power of sex to a domain score, for example, is found by subtracting the variance attributable to classification (squared correlation of classification with domain score) from the variance accounted for by classification and sex (squared multiple correlation of classification and sex) and then entering these values into a formula for computing the value of F. Using F tables for appropriate degrees of freedom one can then determine whether the increment in variance attributable to sex is significant. If it is, one infers that sex makes a contribution to domain score which is independent of the subject's classification status.

We analyzed (1) the unique variance attributable to classification status (C) when the variance attributable to sex and ethnic status were accounted for (Solution C); (2) the unique variance attributable to sex (S) accounting for the variance attributable to ethnic status (E) and classification (C) (SolutionS); (3) the unique variance attributable to ethnic status (E) accounting for the variance attributable to classification (C) and Sex (S) (Solution E) and; (4) the unique variance attributable to sex (S) and ethnic status (E) when the effects of classification were controlled (Solution F). Table 2 presents a sample summary of the procedures which were employed for 9 domains of Part One and 11 domains of Part Two for all age groups in the sample.

TABLE 2

Sample Display of Multiple Correlations, Proportion of Variances and Increments Associated with Classification Status, Sex and Ethnic Status for Independent Functioning Domain Scores for Subjects of Ages 10-3 to 11-2

Solution	R	R^2	Increment over Control	F	df	p
C. Classification Status (C)	.378	.143				
1. Classification Status + Sex (S)	.392	.154	C over S = .142	34.63	1,208	<.01
2. Classification Status + Ethnic Status (E)	.413	.170	C over E = .138	34.55	1,207	<.01
3. Classification Status (C) + Sex (S) + Ethnic Status (E)	.427	.182	C over S+E = .137	35.21	1,206	<.10
S. Sex (S)	.108	.012				
1. Sex (S) + Classification Status (C)	.392	.154	S over C = .011	2.66	1,208	NS
2. Sex (S) + Ethnic Status (E)	.212	.045	S over E = .013	2.80	1,207	<.10
E. Ethnic Status (E)	.179	.032				
1. Ethnic Status (E) + Classification Status (C)	.413	.170	E over C = .027	3.43	2,207	<.05
2. Ethnic Status (E) + Sex (S)	.212	.045	E over S = .033	3.61	2,207	<.05
F. Ethnic Status (E) + Sex (S)	.212	.045				
1. Ethnic Status (E) + Sex (S) + Classification Status (C)	.427	.182	S+E over C = .039	3.36	3,208	.05

Results

Tables 3 and 4 summarize over 1,000 F tests which were required to report the relationship of classification, sex and ethnic status to domain scores.[1] In these tables we have indicated only the F tests which were significant at the $p < .01$ level because of our large sample sizes and the desire to report only those results for which we could be reasonably sure that the findings were attributable to real differences rather than to chance or sampling errors.

Validity of the Domain Scores

The significant contributions of classification to domain scores were numerous and, in nearly all instances, independent of sex and ethnic status. In Part One of the Scale the only age level where classification was not significantly related to domain score was for the 12^3 and 13^2 age group. Since we had no information about the length of time the EMR subjects had been assigned to these special education programs, we cannot be sure whether the non-significant results reflect the effects of the special programs or whether we should question the validity of the Scale for subjects of older ages. The behaviors included in the Adaptive Behavior Scale are those which ultimately can be achieved by nearly all children. Therefore, the non-significant results may reflect the fact that at the age of 12, EMR pupils may be functioning as well as regular class subjects on these domains.

As one evaluates the results of the analyses for the Part Two domains, the reader should keep in mind that these domains assess the degree to which the measured behaviors are incompatible with school attendance. The fact that all of the subjects in this investigation were regularly attending school must

TABLE 3

Significance of Contribution of Variance Attributable

to Classification, Sex and Ethnic Status to Part One Domain Scores

Domain	Age	Increment over Control							
		C/S	C/E	C/S+E	S/C	S/E	E/C	E/S	S+E/C
Independent Functioning	12-13								
	11-12	*	*	*					
	10-11	*	*	*					
	9-10	*	*	*	*	*			
	8-9	*	*	*					
	7-8	*	*	*					
Physical Development	12-13	*	*	*					
	11-12	*	*	*					
	10-11	*	*	*					
	9-10	*	*	*					
	8-9	*	*	*					
	7-8	*	*	*					
Economic Activity	12-13	*	*	*					
	11-12	*	*	*					
	10-11	*	*	*					
	9-10	*	*	*					
	8-9	*	*	*					
	7-8	*	*	*					

Domain	Age	Increment over Control							
		C/S	C/E	C/S+E	S/C	S/E	E/C	E/S	S+E/C
Language Development	12-13	*	*	*					
	11-12	*	*	*				*	
	10-11	*	*	*					
	9-10	*	*	*					
	8-9	*	*	*					
	7-8	*	*	*			*	*	*
Numbers and Time	12-13	*	*	*					
	11-12	*	*	*					
	10-11	*	*	*					
	9-10	*	*	*					
	8-9	*	*	*	*				
	7-8	*	*	*					
Vocational Activity	12-13								
	11-12	*	*	*					
	10-11	*	*	*					
	9-10	*	*	*	*	*			
	8-9								
	7-8	*	*	*					

* F significant at $p < .01$

TABLE 3 (Cont.)

Significance of Contribution of Variance Attributable to Classification, Sex and Ethnic Status to Part One Domain Scores

Domain	Age	Increment over Control							
		C/S	C/E	C/S+E	S/C	S/E	E/C	E/S	S+E/C
Self Direction	12-13								
	11-12	*	*	*				*	*
	10-11	*	*	*					
	9-10	*	*	*					
	8-9	*	*	*	*	*			*
	7-8	*	*	*					
Responsibility	12-13								
	11-12	*	*	*	*	*			*
	10-11	*	*	*	*	*			*
	9-10	*	*	*	*	*			*
	8-9	*	*	*	*	*			*
	7-8	*	*	*					
Socialization	12-13								
	11-12	*	*	*				*	
	10-11	*	*	*					
	9-10	*	*	*					
	8-9	*	*	*	*	*			*
	7-8	*	*	*					

* F significant at p <.01

TABLE 4

Significance of Contribution of Variance Attributable

to Classification, Sex and Ethnic Status to Part Two Domain Scores

Domain	Age	Increment over Control							
		C/S	C/E	C/S+E	S/C	S/E	E/C	E/S	S+E/C
Destructive Behavior	12-13	*		*	*	*		*	*
	11-12	*	*	*		*		*	*
	10-11	*	*	*					
	9-10	*	*	*		*	*	*	*
	8-9	*	*	*	*	*		*	*
	7-8	*	*	*	*	*			
Anti-Social Behavior	12-13	*	*	*	*	*	*	*	*
	11-12	*	*	*		*		*	*
	10-11	*	*	*			*	*	*
	9-10	*	*	*			*	*	*
	8-9	*	*	*			*	*	*
	7-8								
Rebellious	12-13								*
	11-12	*	*	*	*	*	*	*	*
	10-11	*	*	*	*	*	*	*	*
	9-10	*	*	*			*	*	*
	8-9	*	*	*	*	*			*
	7-8	*	*	*	*	*			

Domain	Age	Increment over Control							
		C/S	C/E	C/S+E	S/C	S/E	E/C	E/S	S+E/C
Untrustworthy Behavior	12-13	*	*	*				*	*
	11-12	*	*	*					
	10-11	*	*	*			*	*	*
	9-10	*	*	*		✓	*	*	*
	8-9	*	*	*	*	*			*
	7-8								
Withdrawn	12-13								
	11-12	*	*	*					
	10-11	*	*	*					
	9-10	*	*	*					
	8-9								
	7-8	*	*	*					
Odd Mannerisms	12-13								
	11-12	*	*	*					
	10-11								
	9-10				*	*			
	8-9								
	7-8	*	*	*					*

* F significant at p <.01

TABLE 4 (Cont.)

Significance of Contribution of Variance Attributable

to Classification, Sex and Ethnic Status to Part Two Domain Scores

Domain	Age	Increment over Control							
		C/S	C/E	C/S+E	S/C	S/E	E/C	E/S	S+E/C
Inappropriate Interpersonal Manners	12-13	*	*	*					
	11-12	*	*	*					
	10-11	*	*	*					
	9-10	*	*	*					
	8-9	*	*	*					
	7-8	*	*	*					
Unacceptable Vocal Habits	12-13	*	*	*					
	11-12	*	*	*					
	10-11	*	*	*					
	9-10	*	*	*					
	8-9	*	*	*	*	*			
	7-8	*	*	*					
Eccentric Habits	12-13	*	*	*					
	11-12	*	*	*			*		
	10-11	*	*	*			*	*	
	9-10	*	*	*		*	*	*	
	8-9	*	*	*					
	7-8	*	*	*					

Domain	Age	Increment over Control							
		C/S	C/E	C/S+E	S/C	S/E	E/C	E/S	S+E/C
Hyperactive Tendencies	12-13								
	11-12	*	*	*					*
	10-11	*	*	*	*	*			
	9-10	*	*	*		*	*	*	*
	8-9		*		*				
	7-8								
Psychological Disturbances	12-13	*	*	*					
	11-12	*	*	*					
	10-11	*	*	*				*	*
	9-10	*	*	*			*	*	*
	8-9	*	*	*					
	7-8		*						
Use of Medication	12-13								
	11-12	*	*	*					
	10-11	*	*	*					
	9-10	*	*	*	*				
	8-9	*	*	*					
	7-8		*						

* F significant at $p < .01$

be considered in the interpretation of the findings. The results showed that classification made a significant contribution to domain scores on at least 4 of the 6 age levels on all domains except for Hyperactive Tendencies and Odd Mannerisms. Regular and EMR pupils over the age of 12 could not be differentiated on domains of Non-Conforming Behavior, Withdrawn Behavior, Odd Mannerisms, Hyperactive Tendencies and Use of Medication. Domain scores of subjects younger than 8 who were in EMR and regular classes were not associated with classification status on the domains of Anti-Social Behavior, Untrustworthy Behavior, Hyperactive Tendencies, Psychological Disturbances and Use of Medication. Differences between the mean scores for EMR and regular class subjects increase slightly (indicating more serious problems for EMR pupils) with increasing age. Although the differences were not significant for 5 out of 12 domains for older subjects, the differences between the means of the regular and EMR subjects support the conclusion that as children get older the behavioral problems of the EMR subjects are more marked in contrast with their regular class peers.

In general the findings presented in Tables 3 and 4 support the conclusion that scores on the domains of the public school version are valid for differentiating regular class pupils from those assigned to EMR programs.

Contributions of Sex to Domain Scores

Table 3 summarizes the results analyzing the contribution of sex to Part One domain scores over that contributed by classification, and the contribution of sex over that contributed by ethnic status. Sex made no significant contributions at any ages on the Physical Development, Economic Activity and Language Development domains. On the domains of Independent Functioning, Numbers and Time, Vocational Activity, Self-Direction and Socialization, sex contributed significantly at one age level only either for ages 8-9 or 9-10.

When its contribution was compared to either classification or ethnit status, there was no effect attributable to sex on the other 5 age groups on these domains. There were notable sex differences on the Responsibility domain only for pupils from ages 8 through 11. The differences on the Responsibility domain can readily be accounted for as differences in "sex role" demands made on boys and girls. The two items on the Responsibility domain describe dependability in caring for personal belongings and conscientiousness in assuming responsiblity - both behaviors which characterize roles of girls more than those of boys.

There was evidence that sex was of greater influence in determining scores on the Part Two domains. Sex added significant variance to domain scores after accounting for variance contributed by classification at three age levels for the Destructive Behavior and Non-Conforming Behavior Domains. Reference to the mean scores for boys and girls for these domains show that boys always had higher (more problem) scores than girls. Girls were less hyperactive than boys regardless of their classification at years 8-9 and 10-11. The contribution of sex to domain score controlling for classification occurred at only one or no age levels for the remainder of the Part Two domains. The presence of a greater number of significant relationships of sex to domain score (although there were only 14 out of 72 analyses which were sigrificant) seemed to justify the preparation of additional sets of norms for males and females for Part Two of the public school version. One cannot generalize from these findings, however, to state that there is a general sex bias on the Scale. The domains on which there were differences attributable to sex reflect behaviors which boys and girls acquire differentially as a result of different standards for socialization; therefore, the results reflect the behavioral expectancies of families and the community. The provision of norms for the total group and norms for males and females at each age level should provide

the needed protection against misinterpreting the results of the Scale in the public school setting.

Contributions of Ethnic Status to Domain Scores

The increment of variance attributable to ethnic status in Part One domain scores was significant in only one of 54 analyses. The inference follows that ethnic status does not contribute to domain scores when the effects of classification are accounted for on Part One of the Scale.

Table 4 displays the results of the analyses of the contribution of ethnic status to the Part Two domain scores. The variance associated with ethnic status was a significant contributor at four age levels for the Antisocial Behavior domain, three age levels for Rebellious Behavior, and two age levels for Untrustworthy Behavior. The effects of ethnic status over classification were not significant for any of the other Part Two domains with the exception of a significant finding at one age level each on Eccentric Habits and Hyperactive Tendencies.

Different cultural demands can be reflected in maladaptive interpersonal behavior, which in turn influences ratings assigned to the items of the Antisocial and Untrustworthy Behavior domains. The items on these domains include respect for other's property, style of verbal interaction consideration for others, teasing, gossiping and bossing others around. They are behaviors which are expected to be more common for boys and also may be regarded with differential tolerance by different cultural groups. Similarly, rebellious behavior manifest in response to authority, diligence in following instructions, and punctuality, is associated not only with the pupil's classification status, but also with the ethnic group to which he belongs.

Even though the contribution of ethnic status to Part Two domain scores

was significant for only three of 12 domains, (or in 9 of 18 analyses for 3 domains) we considered the results important enough to prepare additional norms by ethnic status for the public school version. These norms along with the norms for the total sample and those by sex provide the user with reference groups sufficient for adequate and fair interpretation of the results.

Discussion

On the basis of the findings reported here and in the Manual for the public school version of the Adaptive Behavior Scale, we concluded that the Scale was valid for differentiating among pupils assigned to regular and EMR classes from ages 7 through 12. Even though we have provided data to show that the Scale is valid, we do not mean to imply that all children with scores in a critical range necessarily should be classified as retarded. The obtained scores must be compared with other information, contrasted with reports from parents and other teachers, and integrated and evaluated as part of a comprehensive case study of the child.

Our findings demonstrated that the Part One domains reflect behaviors which are acquired by both boys and girls similarly across the three major California ethnic groups which were represented in this study. These behaviors reflect personal independence and were designed to be measures of adaptive behavior, the definition of which is: "1) the degree to which the individual is able to function and maintain himself independently, and 2) the degree to which he meets satisfactorily the culturally imposed demands of personal and social responsibility." (Heber, 1961 p. 61, Grossman, 1973). The Part One domains, which were developed from a careful analysis of behaviors reflecting this definition, validly predicted independent ratings of adaptive behavior. The results presented here lead us to infer that there are common standards for the development of adaptive behavior and responsibility for children of different cultural groups and for boys and girls.

The items and domains for Part Two of the Scale came from a collection of critical incidents depicting problems manifest in children who could not succeed in the school, residential or community programs. High scores on these domains reflect emotional reactions to the environment which are a function of both environmental and individual characteristics. Where significant results attributable to either sex or ethnic status occurred, they can be explained as differences in emotional reactions of children to their environments which are, in part, a result of the degree of tolerance for behavioral deviations in the environmental system. For example, boys evidence more destructive behavior than girls. We can postulate that boys are basically more destructive than girls or that the cultural expectancies for boys differ in tolerating, to a greater extent, acting-out destructive behavior. The same kind of argument can be offered to explain effects of ethnic status on domain score; different ethnic groups have different standards for some types of emotional behavior which are, in turn, reflected in the degree to which particular types of interpersonal, affective, or behavioral responses to authority, peers and family are tolerated or supported.

Other investigators have also reported ethnic status differences in affective or emotional behavior as observed in school. Miller (1972), Swift and Spivak (1968), and Datta, Schaefer and Davis (1968) analyzed the contribution of ethnic status to the measures of social and emotional adjustment. While black children in these studies were often rated as being less able to meet classroom demands, these differences in ratings did not persist when additional variables were introduced in the analysis. For example, a recent study by Lambert and Nicoll (in press) analyzed the unique and joint contribution of socioeconomic status and ethnic status to first and second grade reading achievement. They found that when socio-economic status was controlled, ethnic status did not significantly contribute to reading achievement scores.

As one considers the results of the findings reported here it is important to recall that the Adaptive Behavior Scale was developed from systematic review of hundreds of behavioral statements reflecting aspects of independent functioning, personal and social responsibility, and personality factors associated with independent appraisal of adaptive behavior level. In the item development phase (Nihira, et.al., 1974) no attempt was made to eliminate items on which males and females, or individuals of different ethnic groups performed differently. The fact that the results reported here fail to show consistent ethnic status or sex contributions to domain score makes it possible to infer that differences in adaptive behavior assessments on this scale for pupils assigned to regular and EMR classes reflect real differences in adaptive behavior functioning that are relatively independent of sex and ethnic status.

A logical next question is whether scores on the Adaptive Behavior Scale are simply proxies for intelligence. A post hoc examination of the correlation between IQ scores and domain scores for regular and EMR subjects as a single group showed that on Part One domains over the age range of subjects the magnitude of the relationship ranges from about .10 (Vocational Activity, Self-direction and Responsibility) to about .60 (Number and Time, Economic Activity, Language Development). The correlation between IQ and Part Two domain scores ranged from -.01 (Destructive, Non-conforming) to -.20 (Withdrawal, Stereotyped Behavior). The magnitude of the correlations informs us that this measure of adaptive behavior and measured intelligence share variance attributable to a common factor which can be inferred to be level of general development.

Conclusion

Having demonstrated that the scale was valid for differentiating adaptive behavior levels, (as inferred from classification status), we were interested in determining whether one must conceptualize different standards for adaptive behavior for boys and girls and for children from different ethnic groups. The results from a large sample of regular and EMR pupils in California schools varying with respect to region, socio-economic status, population density and district size suggests that there are common expectancies for independence and personal and social responsibility. The adaptive behavior functioning of boys and girls and of children of different ethnic groups as reflected in scores for age groups on the Part One domains is similar. The exception to this generalization was a significant contribution of sex to scores on the Responsibility domain, a score based on only 2 out of 56 items on the Public School Version. We inferred that this result reflected different social demands on girls than on boys, rather than different capabilities to develop a particular skill.

When we analyzed the differences in Part Two domain scores attributable to sex and ethnic status and found that sex or ethnic status was a significant contributor to some but not all domain scores, we inferred that differences in environmental tolerance for affective or emotional responses to the school or community environment was a more reasonable explanation than the inference that girls and boys or children from different cultural backgrounds were inherently different with respect to these emotional responses or behavior deviations.

We conclude that the acquisition of adaptive behaviors reflected in teacher ratings on the Adaptive Behavior Scale progresses similarly for boys and girls and for children from different cultural groups. The domain scores

derived from teacher administration of the public school version of the Adaptive Behavior Scale are valid for differentiating regular from EMR pupils. Where differences in domain scores might be considered to be related to sex or ethnic status, the Manual provides norms for these reference groups to make appropriate interpretation of the results of Part Two of the Scale.

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Footnote

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