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ABSTRACT

The classroom behavior of 11 segregated and 11 integrated educable mentally retarded (EMR) children, 8 to 13 years of age, was compared on a 12-category observation schedule when all EMR children were in special classes, four months after some children had been reintegrated, and at the conclusion of an academic year. The results indicated that integrated children differed from segregated children on a factor that included prosocial behavior, with the integrated group exhibiting more prosocial behaviors. No significant differences between the two study groups appeared on two other factors which included verbal and physical aggressive behavior. (Author)

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Abstract

The classroom behavior of segregated and integrated EMR children was compared on a 12-category observation schedule at three points in time: (1) when all EMR children were in special classes, (2) four months after some children had been reintegrated, and (3) at the conclusion of an academic year. The results indicated that integrated children differed from segregated ones on a factor that included prosocial behavior, with the integrated group exhibiting more of these behaviors. No significant differences between the two study groups appeared on two other factors which included verbal and physical aggressive behavior.

CLASSROOM BEHAVIOR OF RETARDED CHILDREN BEFORE AND AFTER REINTEGRATION INTO REGULAR CLASSES [1, 2]

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In the aftermath of Dunn's (1968) criticisms of segregated special classes for educable mentally retarded (EMR) children, special educators have hastily disbanded many of their intact programs and have reintegrated children into regular classes, usually with some supportive assistance, e.g., resource rooms, learning centers, prescriptive teachers, etc. The results that accrue to retarded children who are placed in regular classes after having spent one, two, or more years in a segregated class are largely unknown. One of the questions that must be addressed concerns the advisability of reintegrating EMR children. Is it to the child's benefit to be reintegrated, and if so, in which particular areas does reintegration benefit the EMR child? The present investigation was one of several that were concerned with assessing the effects of reintegration on EMR children.

In previous investigations (Gampel, Harrison, & Budoff, 1972; Gampel, Gottlieb, & Harrison, 1973) the classroom behaviors of segregated and reintegrated EMR children were compared on a 12-category observation schedule. The first of these reports (Gampel et al., 1972) was conducted in an

upper middle class school with samples of segregated, reintegrated, and regular class children. The data indicated that reintegrated EMR children interact with their classroom peers and teachers less often than EMR children who remain in segregated classes. Another finding was the low incidence of negative behaviors by EMRs, regardless of placement.

However, the first of these studies was limited by a subject selection bias insofar as the reintegrated and segregated subjects were not randomly assigned to their respective class placements. School administrators had assigned the most competent EMR children to be reintegrated in order to maximize the probability of the integration program succeeding. Therefore, it is not known whether the reported findings are attributable to the class placement or some specific subject characteristics.

A second study was conducted in which the EMR students were randomly assigned to segregated and integrated placements following data collections in their special classes in the spring prior to their move to a newly constructed school the following fall. Gampel, Gottlieb, and Harrison (1973) observed four subject samples on the 12-category behavior observation schedule employed in the first study of these samples: segregated and reintegrated EMRs, low IQ children (WISC scores < 85) who had never been in special class, and regular class controls. The observations were conducted in November, following the opening of the new school. The

analyses indicated that the reintegrated EMR group behaved similarly to the two nonEMR control groups, displayed fewer restless behaviors, and received and evoked fewer negative verbal interactions from their classroom peers (nonretarded) than the segregated EMR children from their EMR peers.

The present paper presents data which compare the classroom behavior of these integrated and segregated EMR students, prior to and during the year following assignment to their segregated in integrated placements. Of concern is the degree to which the normalized behavior displayed by the reintegrated sample in the cross sectional study during the fall persists during the remainder of the school year.

Method

Subjects

Twenty-two integrated and segregated children between the ages of 103 and 157 months were observed at three points in time. Eleven of the 22 subjects (CA = 126.73; SD = 16.03) attended a segregated class on a full-time basis and the remaining 11 subjects (CA = 128.70; SD = 14.42) were integrated full-time into regular classes. The mean MA (SD) of the segregated group was 89.00 (13.58), while the integrated group had a mean MA (SD) of 89.20 (14.31). Two segregated and one integrated children were black. One

(integrated) of the 22 subjects was of a middle class SES level. The others were from homes where the father either was an unskilled or a semi-skilled laborer or was not present in the household.

At the onset of this study (May, 1971) all subjects were attending special classes in one of three schools. The three schools were scheduled to be demolished at the end of the school year and the subjects were reassigned to a new community school that was opening in the fall of 1971. Thirty-one EMR children were to attend the new school. As a part of a larger research project, seventeen of them were randomly assigned to an integration program and 14 were kept in the school's only self-contained special classroom. The 22 subjects who participated in this study were those for whom complete observation data were available for the three observation periods: in late May, 1971, when all 22 subjects in special classes were in their old school buildings, in late November, and again in late May, 1972, in the new school.

The new school operated on a nongraded basis and all children who were not in special classes (about 525 including the integrated EMR children) were assigned to a "family" grouping of approximately 50 children with an age range of two years. Most often, two teachers and an aide were assigned to each "family" grouping.

The reintegrated pupils spent approximately 40 minutes each school day in a remedial learning center (RLC). The RLC was a double-sized classroom staffed by three teachers and accommodated approximately 20 pupils at a time, not more than one-third of whom were EMR children. The primary function of the RLC was to provide educational assistance to EMR children in order to facilitate their re-entry into regular classes. Much attention was given to remedial academic activities (reading and math) as well as to the social and emotional problems faced by the EMR children in their new regular classes. The three RLC teachers would counsel them on appropriate ways to behave, and on ways to overcome some of the problems they faced in the regular classes, e.g., being ignored or rejected by their peers.

The control group children attended a segregated special class for the entire school day. They were only integrated among intellectually average children during the lunch period. The special class children were taught by a full-time, experienced special education teacher with the assistance of a student teacher. In addition, the special class pupils attended a segregated shop class for approximately one hour per day. The shop class was taught by an experienced special education teacher.

Behavior Coding Scheme

The development of behavioral categories was presented

in detail elsewhere and will be briefly reviewed here (Gampel et al., 1973). Twelve categories were included in the final observation scheme. These behaviors were chosen after preliminary work (Gampel et al., 1972) revealed that they were explicit, believed to be relevant discriminators and could be reliably observed by two observers independently. The twelve behavior categories were: (a) attention to task, (b) distraction, (c) out of seat, (d) restlessness, (e) self-stimulation, (f) uncoordinated motor response, (g) aggressive behavior to peer, (h) aggressive behavior from peer, (i) positive verbal response to peer, (j) negative verbal response to peer, (k) positive verbal response from peer, and (l) negative verbal response from peer.

Method of Observing

A time-sampling method was used, each observation unit involving a five minute sample broken into ten units of 20 seconds of observation and 10 seconds of recording. The category system was not mutually exclusive: all behaviors which occurred during the 20-second observation period were recorded with the single restriction that a given category be tallied only once each period. No behavior which occurred during a 10-second recording period was tallied. Timing was done with the sweep hand of a watch. For each observation period in this study, each subject was observed on six different days, at different times each day, for a total of 30 minutes of observation. The schedule was set

up in such a way that there was a minimum time lapse between behavior samples, for any given child, of four days. This was done to insure that the overall picture would be minimally influenced by temporary physical or emotional upsets. All observations were done in the regular classroom (or the special class for the segregated children) by two observers simultaneously. The data were recorded only while the children were working at their desks. No observations were made during structured gruup activities. The children spent the majority of the time working on their own at their desks, but the style of the school included freedom to move about to consult with the teacher or with peers. No observations were conducted in the RLC.

Previous work with the observation schedule indicated that the reliability coefficients for all 12 categories across the six observation days were in the .90's.

Referent Group

During the course of these studies, observation data has been collected on 110 subjects using the schedule and procedures described above. This sample of subjects comprised integrated and segregated EMR pupils from three school systems, pupils with low WISC IQ scores (< 85) who were never identified for special class placement, and intellectually average pupils. This larger, heterogeneous sample was used to obtain a more stable estimate of the

factor structure of the observed behaviors than was possible with the smaller group. The factor structure served as baseline information against which to derive factor scores for the second and third observation of the subjects in this study.

Results

Analysis.

For each of the 12 behavior categories, means and standard deviations of the 20 ratings (10 by two raters) were computed for the 110 subjects who participated in the study. These 12 means and 12 standard deviations were then submitted to a principal components analysis and varimax rotation. This procedure was used as a means of data reduction, and to determine whether a logical pattern of behavior emerged. Three factors emerged from these analyses, accounting for 46.2% of the total variance. Factor I, accounting for 18.2% of the variance, was called Ideal Behavior for a classroom situation because it comprised the following behavior categories: positive verbal response to and from peers, lack of distractibility, and out of seat and restlessness. (The high incidence of the latter two behavior types accompanies a high incidence of interaction with peers.) Factor II accounted for 17.1% of the variance and was labeled Verbally Hostile Behavior because it consisted of negative verbal response to and from peers

and lack of self-stimulation. Agressive behavior to and from peers had high loadings on Factor III, which was labeled Physically Hostile Behavior and accounted for 10.9% of the variance. Variables with loadings above .40 on the varimax rotation are presented in Table 1.

Insert Table 1 about here

Means and standard deviations on the 12 behavior categories for the 22 subjects observed at the second and third points in time were then standardized according to the means and variances of the original 110 subjects. Factor scores of the 22 subjects for the latter two observations were computed by multiplying these standardized scores by the product of the inverse of the correlation matrix and varimax factor matrix obtained with the original 110 subjects. The means and standard deviations of the factor scores for the 11 integrated and 11 segregated children for each of the three observation points appear in Table 2.

Insert Table 2 about here

In order to determine differences in behavior of integrated and segregated children on the second and third observations, six univariate analyses of covariance were performed with school placement (integrated versus segregated)

as the between variable. In three of these analyses, scores on the three factors at the third point in time were dependent variables; in the other three analyses, scores on the three factors at the second point in time were dependent variables. In each analysis, the score on the corresponding factor at the first point in time was the covariate. Scores of only the 22 subjects who were involved in all three observations were used in these analyses.

Results of the six analyses of covariance on factor scores are presented in Table 3. With the corresponding factor scores at Time 1 covaried, integrated and segregated children differed significantly only on Factor I at the third observation. On this factor (Ideal Behavior) integrated children had significantly higher mean factor scores than segregated children.

Insert Table 3 about here

Discussion

Ex-special class students after one year of integration exhibit higher incidences of prosocial behaviors than their segregated controls. There were no differences between the two groups on factors that describe aggressive physical and negative verbal interaction with peers. However, these students had low mean frequencies for these negative behaviors regardless of class assignment, contrary to our initial expectation. It is commonly acknowledged that a

major latent reason for referral to a special class is the children's difficult-to-manage classroom behavior. The present data indicate that once children are removed from special class and placed back in regular class they do not engage in very much of the difficult-to-manage behaviors that were at least partially responsible for their special class placement.

A direct contrast of classroom behaviors of the EMR pupils and their regular class peers can be made by comparing the mean factor scores of the latter sample observed during the fall of the same year with the factor scores of the special education samples in this study. Reference to Figure 1 indicates that after one year of integration, the integrated EMR children engaged in higher incidences of prosocial behaviors than the 48 regular class children in the referent group (factor score means: regular class children = .753; integrated EMR children = 1.54). Figure 2 indicates that the integrated students engaged in fewer physically aggressive behaviors than the regular class children (factor score means: regular class children = .423; integrated EMR children = -.240). The integrated EMR children did, however, engaged in more verbal aggressive behavior than their regular class peers (regular class children = -.176; EMR children = .189) (See Figure 3). On two of the three factors at the third data point, the

integrated children evidenced acceptable classroom behaviors comparable to a referent group of their schoolmates.

Insert Figures 1, 2, 3 about here

There are at least two possible reasons for the greater incidence of prosocial behavior among the reintegrated EMR children. First, it is probable that their behavior is at least partially shaped by the generally appropriate behavior of their regular classmates and the behavioral standards set by teacher expectations. The models available to the segregated clsss children, on the other hand, are other low IQ children who could not be managed in the regular classes and who often continue to engage in inappropriate behaviors while they are in special class. In such circumstances and with different teacher expectations, there may be few inducements for the special class child to change his behaviors, assuming he knew how.

A second possibility for the increased incidence of prosocial behavior by the reintegrated group is that the integrated child experiences either real or imagined social threats from his peers and/or teachers. The EMR child may live with the fear that if he misbehaves he will be returned to the special class. The "social threat" hypothesis is plausible for a variety of reasons. Other data collected

on these children indicate that the reintegrated EMR children experience significantly higher levels of anxiety than segregated children (Gottlieb & Gudoff, 1973a). Also, school staff frequently reported anecdotes which indicated the integrated students felt themselves to be under considerable pressure during the school day, especially during the first half of the year. The stress was expressed as bravado or, more frequently, as isolated or withdrawn behavior. During this same period, the students also report more positive attitudes toward school and perceive others to view them more positively, although they continue to view their own capabilities negatively. Thus, although they seemed to perceive the potential threat of return to the special class and the pressure of their new status, they also perceive positively the new opportunities available to them within the school. The observation data support the positive direction of the attitudinal data since they (the observation data) indicate that the integrated students are working to socialize themselves within the mainstream of the school.

Gampel et al. (1972) used the same observation instrument and procedures with suburban students who had been integrated at least two years, and special and regular class contrast samples. They reported after examining the individual frequencies of behaviors, low incidences of deviant, hostile, aggressive, and self-stimulation behaviors

with EMR children, whether in special class or integrated into regular class. These frequencies were no different from the regular class controls in that study.

When the observation scores were factor analyzed, the integrated students and the CA peers behaved most similarly in the classroom, while the special class students tended to demonstrate higher incidences of negative behaviors: those denoting low restless energy level and negative peer interactions, awkwardness, aggressiveness, and distractibility. Both studies, with samples drawn from different schools (suburban and inner city), revealed parallel results: integration of special class students result in higher incidences of prosocial behaviors, more positive attitudes toward school, even though these behaviors may occur in a context of fantasied threat of return to special class.

In context of the data available on these children, the disturbing finding is the consistent data from three school systems that regular class peers do not choose these children as friends (Goodman, Gottlieb, & Harrison, 1972; Gottlieb & Davis, in press; Gottlieb & Budoff, 1973b; Gottlieb, Cohen, & Goldstein, 1973).

Given the generally positive nature of the integrated experience for the children, research must focus on the reasons for this continued lack of acceptance and on the means by which it may be ameliorated.

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FOOTNOTES

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TABLE 1

Variables with Factor Loadings above .40 on Varimax Rotation of First Observation Behavior Ratings

Category[1]	Variable		Factor I	Factor II	Factor III
			Prosocial	Verbally hostile	Physically hostile
	Behavior	$\bar{X}$ or SD	behavior	behavior	behavior
Pos. verb. from peer	11	mean	.78		
Pos. verb. to peer	9	mean	.77		
	11	SD	.73		
	9	SD	.67		
Distraction	2	mean	-.61		
Out of seat	3	mean	.52		
Restless	4	mean	.51		
Uncoord. motor res.	6	SD	-.50		
	3	SD	.47	.45	
	2	SD	-.44		
Neg. verb. from peer	12	mean		.81	
	12	SD		.79	
Neg. verb. to peer	10	SD		.73	
	10	mean		.71	
Self-stimu.	5	SD		-.49	
	5	mean		-.44	
Attention	1	SD		.41	

TABLE 1 (continued)

	Variable		Factor I	Factor II	Factor III
				Verbally	Physically
			Prosocial	hostile	hostile
	Behavior	$\bar{X}$ or SD	behavior	behavior	behavior
Agg. from peer	8	SD			.85
	8	mean			.83
Agg. to peer	7	SD			.83
	7	mean			.80

[1] Corresponds to description of behavior categories referred to in text.

TABLE 2

Means and Standard Deviations for Factor Scores at Three Points in Time[a]

Group	Factor	Time		
		Spring 1971	Fall 1971	Spring 1972
Segregated	I	-0.171	0.499	0.926
		(0.578)	(0.827)	(0.632)
Integrated	I	-0.312	1.045	1.543
		(0.929)	(0.822)	(0.352)
Segregated	II	-0.305	1.516	0.189
		(0.777)	(2.992)	(1.028)
Integrated	II	0.161	0.169	0.122
		(0.654)	(0.919)	(0.475)
Segregated	III	-0.120	1.187	0.423
		(0.611)	(2.356)	(2.628)
Integrated	III	0.167	0.327	-0.240
		(1.362)	(1.105)	(0.698)

[a]Standard deviations in parentheses

TABLE 3

Summary of Analyses of Covariance on Factor Scores for Placement (Integrated Versus Segregated) Main Effect

Factor	df	MS	F
Time 2 data as dependent measures			
I	1/19	1.690	2.372
II	1/19	4.732	0.982
III	1/19	5.648	1.774
Time 3 data as dependent measures			
I	1/19	2.252	8.861*
II	1/19	0.000	0.000
III	1/19	2.576	0.664

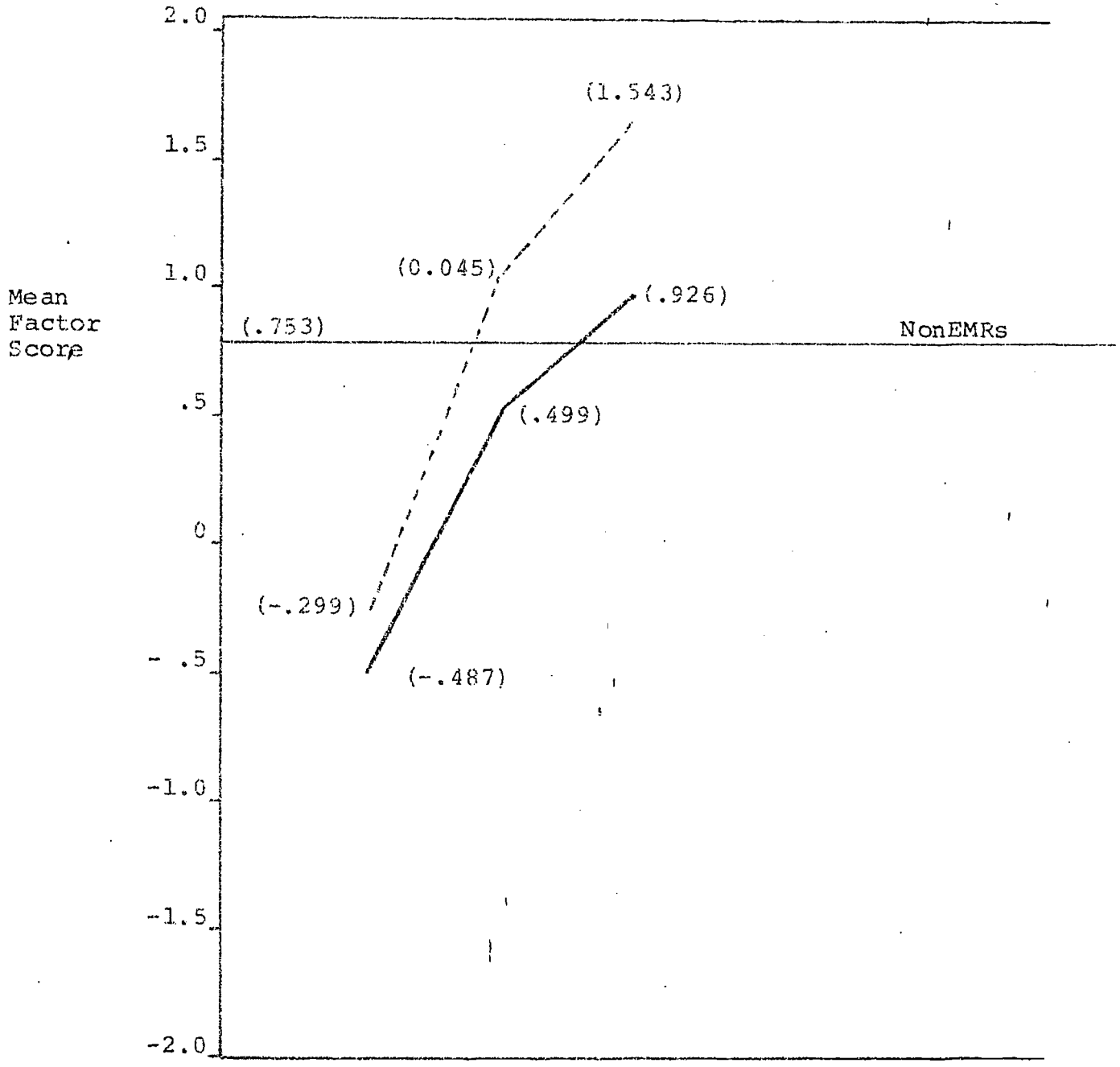
*p <.01.

Figure Caption

Figure 1

Factor I Scores for Segregated and Integrated Retarded Children at Three Points in Time in Relation to NonEMR Referrent Group.

Factor 1 - Positive Behavior



Time	1	2	3
—— Segregated (N)	48	11	11
---- Integrated (N)	22	11	11

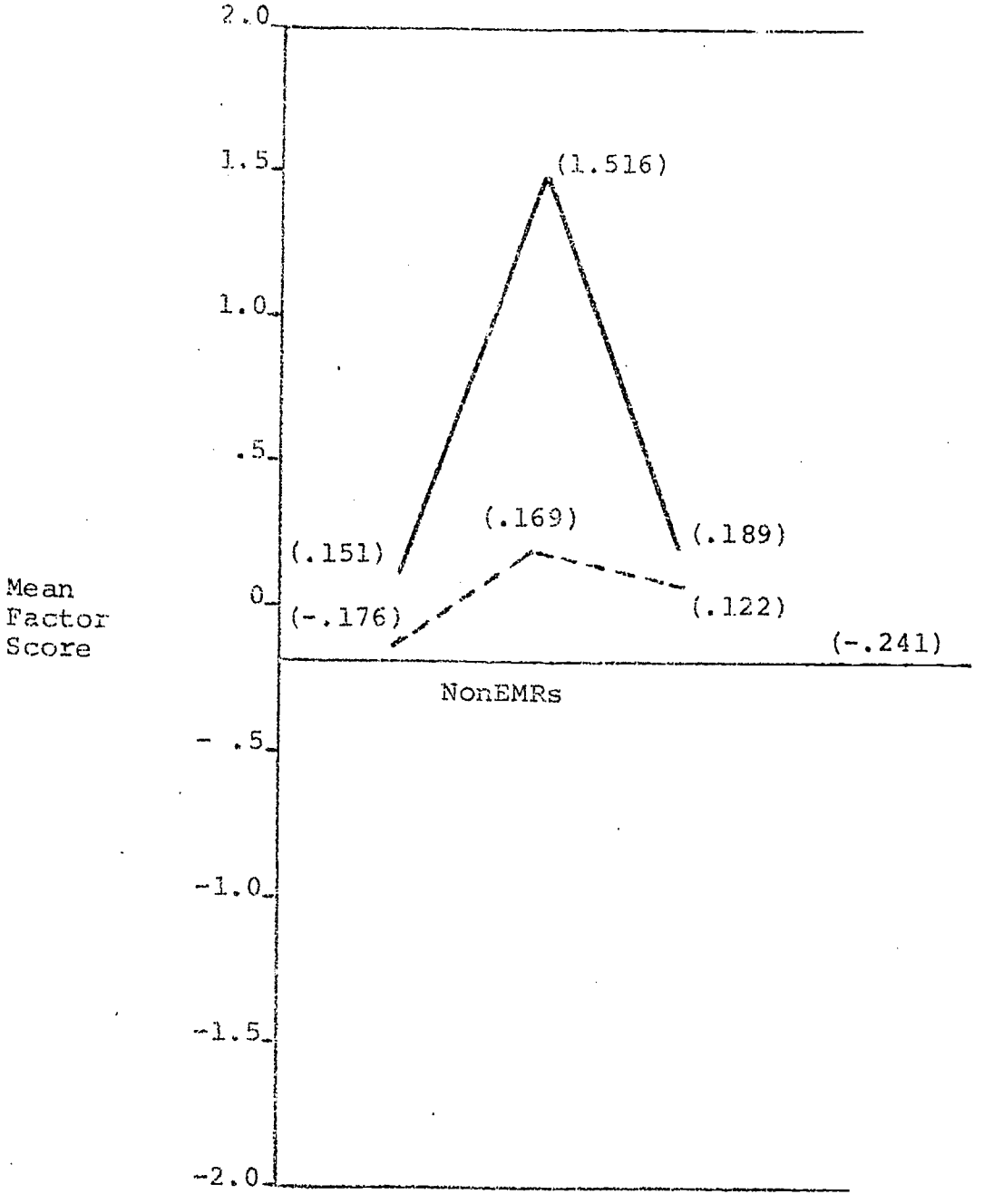
—— NonEMRs at Time 1 (N = 48)

Figure Caption

Figure 2

Factor II Scores for Segregated and Integrated Retarded Children at Three Points in Time in Relation to NonEMR Referrent Group.

Factor 2 - Verbal Aggressive Behavior



Time	1	2	3
—— Segregated (N)	48	11	11
---- Integrated (N)	22	11	11

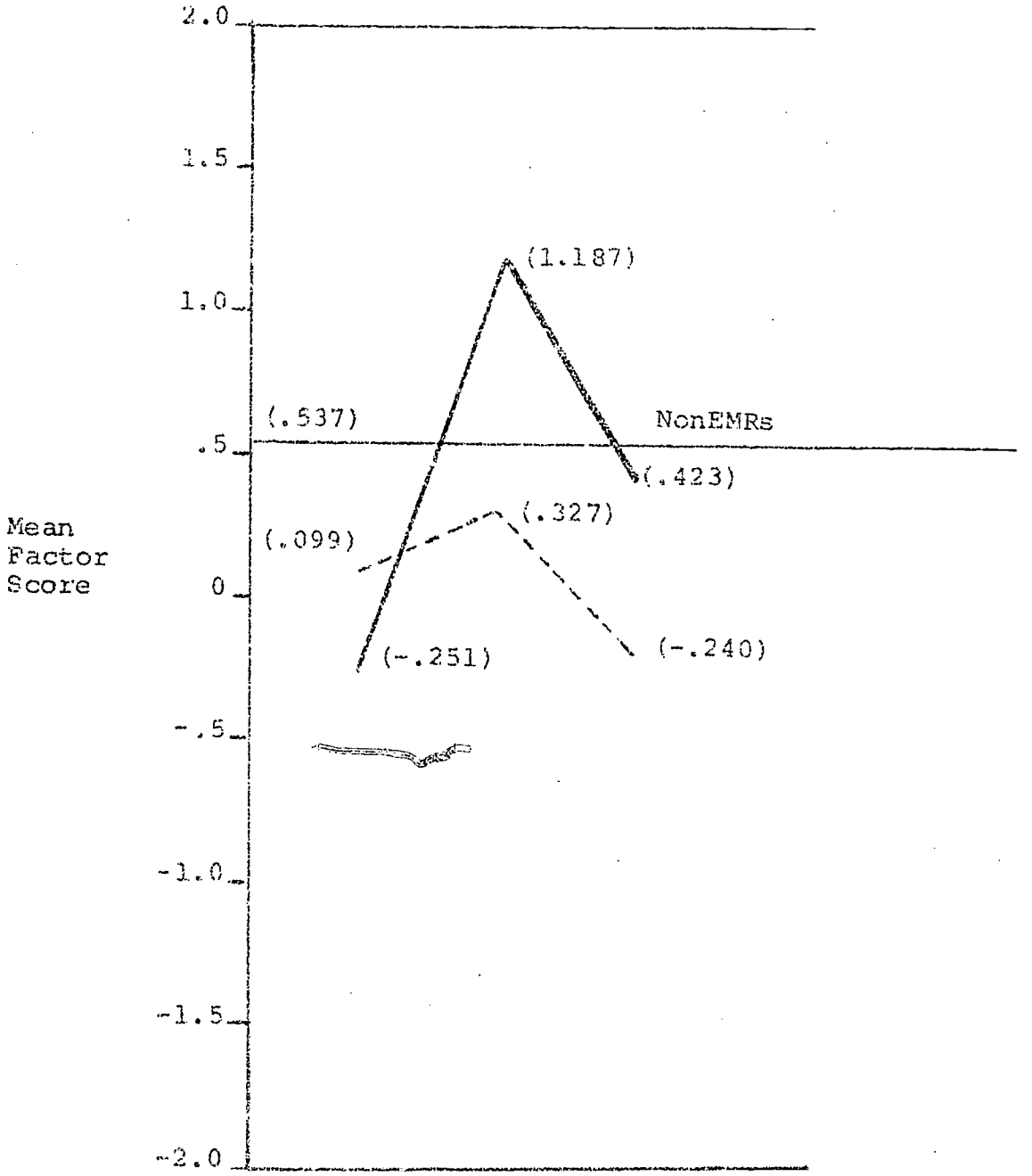
—— NonEMRs at Time 1 (N = 48)

Figure Caption

Figure 3

Factor III Scores for Segregated and Integrated Retarded Children at Three Points in Time in Relation to NonEMR Referrent Group.

Factor 3 - Physically Aggressive Behavior



Time	1	2	3
——— Segregated (N)	48	11	11
- - - - Integrated (N)	22	11	11

——— NonEMRs at Time 1 (N = 48)