
The Piers-Harris Self-Concept Scale for Children, the Florida Key: A Scale to Inter Learner Self-Concept, and the Walker Problem Behavior Identification Checklist were used to assess the self-concepts of 18 ambulatory physically handicapped children between the ages of 6 and 12 years. Data were analysed via one-sample t-tests. The hypothesis that mainstreamed handicapped children would exhibit somewhat lower self-concept than their nonhandicapped peers was not supported. In fact, some mainstreamed physically handicapped children may indeed exhibit higher frequencies of relating to peers and teachers, less acting-out behavior (among males), and better overall self-concept than the nonhandicapped populations from which the normative data were obtained (p < .05). These results were discussed in terms of the children's experiences within the hospital environment from which they were selected.
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THE EFFECTS OF MAINSTREAMING ON THE SELF-CONCEPT OF
PHYSICALLY HANDICAPPED CHILDREN

Over the past 10 years, the mainstreaming of exceptional children has become a major issue in education. The importance of educational mainstreaming has been brought to the forefront by the passage of Public Law 94-142 in 1975. The Education for All Handicapped Children Act (P.L. 94-142) mandates that all exceptional children will be educated in the least restrictive environment and provides due process and other procedural safeguards to assure appropriate identification, evaluation, and placement of handicapped children (Sunderlin, 1979). Zigler and Muenchow (1979) suggest that perhaps the most revolutionary aspect of the legislation is its mandate for parental participation in developing an "individualized education program" for each handicapped child. The Council for Exceptional Children has highlighted the major intentions of mainstreaming as

Providing the most appropriate education for each child in the least restrictive environment.

Looking at the educational needs of children instead of clinical or diagnostic labels such as mentally handicapped, learning disabled, physically handicapped, hearing impaired, or gifted.

Looking for and creating alternatives that will help
general educators serve children with learning or adjustment problems in the regular setting. Some approaches being used to help achieve this are consulting teachers, methods and material specialists, itenerant teachers, and resource room teachers.

Uniting the skills of general education and special education so that all children may have equal educational opportunity (Cruickshank, 1980, p. 560).

Cruickshank further stresses that mainstreaming is not a random approach to the placement of children with special needs, but one of careful matching of exceptional children's needs with the capabilities of particular schools, programs, and classrooms to respond to these needs. Indeed Zigler and Muenchow (1979) caution that the law's admonition that handicapped children be educated to the maximum extent feasible in regular classes could be abused by failing to provide sufficient special classes. For some severely handicapped children, the special placement may well be the mainstream. Zigler and Muenchow state that it is the task of researchers to help determine both the positive and negative effects of mainstreaming on the children involved. "Research is needed to provide some basic knowledge about which children, with which handicaps, are likely to benefit from mainstreaming (p. 993)."

One aspect of child behavior that may be especially sensitive to the effects of mainstreaming is self-concept.
Although self-concept has been the focus of research, few researchers have adequately defined self-concept in the literature. Monge (in Wolman, 1977) presents a definition of self-concept in which two major aspects of the concept of self are postulated: a) a set of relatively private self-regarding attitudes, and b) a set of internalized perceptions of the expectation and attitudes other have about oneself. In the first sense, self-concept is the image or mental picture one has of oneself; a set of attitudes about one's own mental and physical capabilities and the image one thinks one's appearance presents to others. In the latter sense, self-concept reflects one's set of roles, if roles are defined as the expectations others have about behavior required by and appropriate to oneself. Monge believes that one then judges oneself by others' standards and uses feedback from the overt and sensed reactions of others to one's behavior as guides to immediate action and as predictors of what behaviors will be appropriate in the future. To the extent that the perceived reactions of others are internalized as guides for behavior, those reactions become part of self-concept. In keeping with Monge's definition, self-concept theory stresses the role of interpersonal interactions in shaping the child's self-concept and subsequent behavior. Children who perceive themselves as being viewed negatively by others will tend to behave inappropriately, thereby promoting both negative self-evaluations and further negative evaluations by others (Safer, in Gottlieb,
Syngg and Combs (1949) state that "what a person thinks and how he behaves is largely determined by the concepts he holds about himself and his abilities (p. 131)." This suggests the existence of self-perpetuating cycle and is supported by the finding of Voeltz (1980) that handicapped children who exhibit negative behavior are socially rejected due to peer perceptions of antisocial and noncompetent behavior. Any child can get caught in this negative cycle, but it seems that handicapped children are particularly vulnerable because in many instances their handicapping condition has already placed them in a position of being negatively scrutinized by their nonhandicapped peers.

Other researchers have attempted to demonstrate the relationship between self-concept and academic achievement. Purkey (1970) is in sharp disagreement with the common notion that human ability is the overwhelming factor in academic achievement. He believes that the child's self-concept greatly influences his/her academic performance. Finn (1972) contends that when the perception of an important other, such as a teacher, is negative, it can be expected to lower the child's self-concept and so his concept of potential achievement. The ultimate result is lowered academic performance. Vacc (1968) conducted a study designed to measure changes in achievement and overt behavior, and to assess the social position of emotionally disturbed and non-labeled children in regular classrooms. He found that emotionally disturbed children in
regular classes "achieved" less well on the Wide Range Achievement Test and the Behavioral Rating Scale (Haring & Phillips, 1962) than did emotionally disturbed children in special classes. The Behavioral Rating Scale is a 7 point scale on which a judge rates a child on each item of descriptive behavior. Further, Vacc reported that emotionally disturbed children in regular classes were less well accepted than non-labeled children. Whereas current research findings are far from definitive, they are suggestive of the existence of interrelationship among self-concept, behavior, and academic achievement.

Although the results of both the Voeltz and Vacc studies indicate negative consequences for the mainstreamed handicapped child, the cumulative results of the research on the effects of mainstreaming on the self-concept of special children are inconclusive. In support of mainstreaming, results of a study by Bradfield, Brown, Kaplan, Rickert, and Stannard (1973) suggest that educators can place special children within regular programs and still provide an effective learning situation for all students. The study focused on a small sample of educable mentally retarded and educationally handicapped students previously placed in special self-contained classrooms who were randomly assigned to control and experimental classrooms. The experimental or model classrooms were actually regular classrooms modified to accommodate the special child as well as to provide individual instruction for all children in those classes.
Two educable mentally retarded, two educationally handicapped, and several non-labeled students were assigned to each of the two model groups. The six control groups continued the unmodified self-contained classes. There was one model class per grade. All non-labeled children at the fourth grade level were administered the California Achievement Test whereas all children on the third grade level and special children in fourth grade classes completed the Wide Range Achievement Test. In addition, the special students in both the model and control programs were evaluated by their teachers on the Quay-Peterson Behavior Problem Checklist in order to determine any behavioral changes that might have been observed. A measure of self-concept was obtained by using the Semantic Differential with the special pupils in the model and control classrooms. While results indicate that the magnitude of attitudinal change was minimal, the educationally handicapped students in the model program experienced greater positive attitude change towards educational concepts, themselves, and their families. The educationally handicapped pupils in the model classes also demonstrated significant gains in arithmetic when compared to their peers in control classes. Non-labeled and educable mentally retarded children showed no significant changes within or between groups. Bradfield et al. (1973) emphasize that their results demonstrate that educational problems need not be "diluted" by the entrance of special students into the classroom. However, modifications in regular classroom
procedures have to be made to accommodate these children. Bradfield et al. contended that such modifications are apt to benefit not only the special child, but the majority of the children in the classroom as well. Finally, Bradfield and his colleagues emphasized that their research was not an attempt to make a "pure" comparison of special vs. regular classrooms, but rather to show that with modification in regular class programs the special child can gain as much, or more than similar children in traditional self-contained special classrooms.

The effects of segregated and partially mainstreamed school programs on the self-concept and academic achievement of educable mentally retarded children were assessed in a study conducted by Carroll (1967). The two groups were compared by means of a pretest-posttest battery over a 8 month interval. Both groups were administered the Illinois Index of Self Derogation (IISD), developed by Goldstein (1964), and the Wide Range Achievement Test (WRAT). The IISD is composed of 22 items, each consisting of two sentences. One sentence describes a child with socially undesirable attributions and the other sentence describes a child with neutral or socially desirable attributions. The child is instructed to choose which sentence he regards as most like himself. The working definition of IISD was "anything said about or attributed to one's self is, at least in part, one's self-concept (Goldstein, 1964, in Carroll, 1967, p. 95). Carroll found that educable
mentally retarded children in special classes endorsed significantly more self-derogatory statements than their partially mainstreamed counterparts. She interpreted the decrease in self-derogation among partially mainstreamed educable mental retardates to indicate a more positive self-concept. Carroll also reported that the partially mainstreamed students showed significant growth in reading, but that no significant differences emerged in spelling or arithmetic. Since the WRAT was the instrument employed to measure academic achievement, it would be more accurate to say that the partially mainstreamed students improved in word recognition, which may or may not reflect their reading achievement.

Budoff and Gottlieb (1976) compared the academic, personal, and social growth of special class educable mentally retarded children who were assigned randomly to regular classes or retained in special classes, at three time intervals. Measures representing four behavioral domains were selected: achievement, motivation, cognitive style, and teachers' perceptions of behavior. It was found that after one school year, the reintegrated children expressed more positive feelings toward themselves as students, felt others perceived them as more competent, and behaved more reflectively than when assigned to special classes. Research of this nature seems quite relevant in that many mainstreamed students have spent time in special classes.
In a thought-provoking study conducted by Strang, Smith, and Rogers (1978), Social Comparison and Group Reference theory were used to assess the impact of half-day integration into the educational mainstream upon the self-concepts of academically handicapped children. The academically handicapped children who were mainstreamed for part of each school day exhibited a significantly positive increase in self-concept as measured by the Piers-Harris Children's Self Concept Scale, relative to other academically handicapped children who remained in segregated special classrooms. The authors suggest that possibly these positive changes occurred as a result of the mainstreamed children's ability to selectively utilize different comparative reference groups. When a second group of mainstreamed children were administered the Piers-Harris Scale, but instructed to respond only with reference to their regular classroom peers, scores decreased on the self-concept scale. One explanation offered for these results is that the mainstreamed children with unrestricted freedom to use multiple reference groups selectively utilized the two available groups in maintaining and augmenting their self-regard. For academic social comparisons, they may have selected the group most similar to themselves whereas the other self-concept comparisons they may have utilized their new regular classroom reference group. These findings appear to support those of Carroll (1967). Strang et al. (1978) have demonstrated a potentially helpful means of promoting and maintaining positive self-concept among many populations of exceptional children.
Unfortunately little research has been conducted in the area of the effects of mainstreaming on an exceptional child's self-concept; and the little research completed has involved very diversified populations. The bulk of such research, however, seems to have been conducted with educable mentally retarded and related mentally handicapped populations. Ribner (1978) examined the effects of special class placement on the self-concept of children described as minimally brain damaged. He concluded that when compared with non-labeled children, both minimally brain damaged children in special classes and those in regular classes had significantly lower self-concepts in perceptions of school adequacy. Only those special children placed in regular classes, however, held significantly lower self-concepts than normal children in general competence. It should be kept in mind that the minimally brain damaged children in regular classes were to be recommended for special classes which suggests that they may not be a representative sample of mainstreamed children. They seem to represent those for whom mainstreaming is inappropriate and for whom special classes may indeed be the least restrictive environment.

Studies measuring the self-concept of mainstreamed handicapped children seem to be diverse and the results are frequently confusing, if not conflicting. Boersma, Chapman, and Battle (1979) maintain that the reasons for much of this confusion can be attributed to the use of many and often poorly developed instructions, inadequate information regarding the
populations to which results may be generalized, and lack of discussion regarding factors that should be considered when interpreting self-concept scores. In terms of instrumentation, Boersma et al. point out that the most frequently used scales in studies of self-concept and school achievement measure global aspects of self-regard. As such, they tend to cover too many personality traits to allow valid predictions about human behavior. The problem here seems to be the oft held faculty assumption that self-concept is a unitary structure when in fact, as Ribner (1978), Boersma et al., and others have indicated, it appears to be a multidimensional concept containing many factors. With reference to inadequate information regarding the populations to which the data can be generalized, Boersma et al., emphasize that the nature of the sample and its ecological setting can lead to different results. These factors, in turn, can have considerable influence on the way in which the results may be interpreted.

Finally, Boersma et al., note that the peer reference group should be considered when interpreting the meaning of self-concept scores. It is important to recognize that the meaning of self-concept is basically derived from cognitive changes and reference group comparisons.

Another problem with the published research, and a hinderance to the practical implementation of some findings, is that replication of studies employing identical populations and settings is seldom attempted. Consequently, the
literature is full of many theoretically similar, but practically unrelated investigations whose findings cannot easily be generalized even among the populations being studied. Part of the problem in defining populations may be heterogeneity within many groups such as learning disabilities, educable mental retardation, and emotional disturbances. The present study will focus upon ambulatory physically handicapped children of average intelligence because this group constitutes a more homogenous population. In addition, ambulatory physically handicapped children are most likely to be educated in the mainstream, but have been the focus of few studies.

Current research indicates that, in general, exceptional children tend to have lower self-concepts that their nonhandicapped peers (Ribner, 1978; Ascione & Borg, 1980; Black, 1974). It has also been found that certain areas of self-concept, such as school adequacy, vary according to the child's reference groups (Strang et al., 1978; Ribner, 1978). In light of these results, it would be incorrect to assume that mainstreaming alone can be responsible for improved self-concept among exceptional children to develop a realistic outlook on life and a positive self-concept.

The purpose of the present study is to compare the self-concepts of mainstreamed physically handicapped children and nonhandicapped children in regular classes. It is hypothesized that mainstreamed physically handicapped children will somewhat lower self concepts than their nonhandicapped peers.
Physically handicapped children were chosen because their group is set apart from those generally studied in that their handicaps are purely physical in nature and, unlike mentally retarded or emotionally disturbed children, there is no sound academic reason for excluding physically handicapped children of average intelligence from the regular classroom. It is expected that the physically handicapped child's experience in the regular classroom is quite different from that of mentally retarded or emotionally disturbed children. Dependent variables will consist of three measures of self-concept: A self-concept questionnaire which the children complete themselves, a behavior problem checklist which the teacher completes for each child, and a teachers' rating scale designed to infer student self-concept.

Method

Subjects

Subjects were 18 ambulatory physically handicapped children, with equal numbers of males and females, enrolled in regular education classrooms (i.e., educated in the mainstream). All were outpatients at the Scottish Rite Hospital for Crippled Children in Dallas, Texas, and informed consent was obtained from each child's parent or guardian. Because some test data was unavailable, the number of subjects in the analyses differed; six males and three females were available for two of the analyses.
The average age of the sample was 9.5 years. The grade classification breakdown for the sample was as follows: 11% first grade, 28% second grade, 11% third grade, 22% fourth grade, 22% fifth grade, and 6% sixth grade. In all cases, intelligence had been estimated by each child's teacher to be within the average to be above range. Physically handicapping conditions included 28% Legg-Perthes, 33% cerebral palsy (spastic diplegia, quadriplegia, and hemiplegia), and 39% other conditions including scoliosis with leg length discrepancy; various foot and feet deformities such as bilateral planovalgus deformities, pes cavus deformities, and tibial deformities; and congenital abnormal lumbar spine.

Materials

Two instruments designed to assess each subject's self-concept were used in this study. One was the Florida Key: A Scale to Infer Learner Self-Concept, a research instrument developed by Purkey, Cage, and Graves (1973). The elementary form for grades 1-6 was completed by teachers for each student participant. The scale consists of 23 statements concerning the child's school behavior. The occurrence of each behavior was ranked as followed: (0) Never, (1) Very Seldom, (2) Once in A While, (3) Occasionally, (4) Fairly Often, or (5) Very Often. The final score is the sum of these responses. Four factors have been identified and they are Relating, Asserting, Investing, and Coping.
Relating reflects a basic trust in people. The student who does well on relating probably identifies closely with his classmates, teacher and school. He thinks in terms of my teacher and my classmates as opposed to the teacher and those kids.

Asserting suggests a trust in one's own value. The student feels control over what happens to himself in school, and those who score well on asserting are usually willing to challenge authority to obtain a voice in what is happening in the classroom.

Investing implies a trust in one's potential. The person who feels good about himself as a learner is more willing to risk failure and ridicule. A high score in investing suggests an interest in originality and a willingness to try something new.

Coping indicates a trust in one's own academic ability. The student who scores well on coping is interested and involved in what happens in the classroom. Such students have often discovered reading, a powerful key to learning, and sometimes it is pursued independent or even in opposition to class activities or school curriculum.

Purkey believes that an individual who relates well in school, is able to assert feelings, feels free to invest in class activity, and can reasonably cope with the challenges and expectations of school possesses a good self-concept as a learner.
Since normative data have not been collected by the developers of the Florida Key, means and standard deviations for each of the four factors were computed based on data collected in Australia (Fahey, 1983), on 1000 nonhandicapped children (Table 1).

Table 1
Summary Statistics for Florida Key Based on Austrian Sample (n = 1000)

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Relating</th>
<th>Asserting</th>
<th>Investing</th>
<th>Coping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>25.275</td>
<td>31.424</td>
<td>14.509</td>
<td>17.005</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>2.007</td>
<td>2.631</td>
<td>1.141</td>
<td>1.688</td>
</tr>
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</table>

The other self-concept instrument was the Piers-Harris Children's Self-Concept Scale (The Way I Feel About Myself), a self-report questionnaire developed by Piers and Harris (Piers, 1969). The scale consists of 80 statements and was designed for children over a wide age range. When administered in group form, it requires approximately a third grade reading knowledge. On an individual basis, it can be used with students below that level. The statements were answered 'yes' or 'no' and items were scores in the direction of high (good) self-concept. Six interpretable factors have been identified and labeled (1) Behavior, (2) Intellectual and Social Status, (3) Physical Appearance and Attributes, (4) Anxiety, (5) Popularity, and (6) Happiness and Satisfaction. Because no
normative data were available for the factors, analysis was conducted based on the data pertaining to the total Piers-Harris score. The mean of the normative sample was 51.84, and the standard deviation 13.87 ($n = 1183$). Average scores were usually considered to be those between the 31st and 70th percentiles or between raw scores of 46 to 60.

In addition, the Walker Problem Behavior Identification Checklist, developed by Hill M. Walker (1976), was completed for all student participants. This instrument is composed of 50 statements describing problem behaviors. If the respondent had observed any of these behavioral items in the child's response pattern in the previous two months, he or she was instructed to indicate these by circling the number to the right of the appropriate items. If the behavior had not been observed during this period, then no items were marked. Each item loads on one of five scales: (1) Acting-Out, (2) Withdrawal, (3) Distractibility, (4) Disturbed Peer Relations, or (5) Immaturity. Individual scores on these scales were compared to norms generated by Walker in order to determine whether the frequency of a class of behavior exceeded average limits. Normative data were based on raw scores of males and females separately (Table 2).

Procedure

All subjects were screened by the experimenter one day prior to the test administration. This was done via examination of the files of children who would be seen at the
Table 2
Summary Statistics for Walker Problem Behavior Identification Checklist

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Acting Out</th>
<th>Withdrawal</th>
<th>Distractibility</th>
<th>Peer Relations</th>
<th>Disturbed Immaturity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>3.20</td>
<td>1.59</td>
<td>3.77</td>
<td>1.18</td>
<td>.76</td>
</tr>
<tr>
<td>Female</td>
<td>1.50</td>
<td>1.59</td>
<td>1.33</td>
<td>.35</td>
<td>.52</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>5.70</td>
<td>3.32</td>
<td>3.74</td>
<td>3.01</td>
<td>1.99</td>
</tr>
<tr>
<td>Female</td>
<td>2.98</td>
<td>3.08</td>
<td>2.05</td>
<td>.08</td>
<td>1.64</td>
</tr>
</tbody>
</table>

Orthopedic Clinic the next day. Subjects were selected on the basis of the following criteria: Physically handicapped and ambulatory, between the ages of 6 and 12 years, and educated in regular education classrooms.

On the day of Orthopedic Clinic, subjects were identified as they were called for Clinic and the child and parent/guardian was approached concerning participation in the study. Each parent/guardian was given a brief written synopsis of the study as well as a verbal explanation. The parent/guardian was then asked to sign two consent forms: One giving permission for his/her child to participate in the study, and one giving the examiner permission to contact the child's teacher in order to request completion of the Florida Key and the Walker Problem Behavior Identification Checklist. Each subject
also signed these consent forms and gave verbal permission to be tested.

Demographics were collected on each subject with the assistance of the parent/guardian. Demographic information obtained included birthdate, sex, grade, classroom setting, and handicapping condition as well as teacher's name and address.

The Piers-Harris Children's Self-Concept Scale was then administered to each subject individually by the examiner. All subjects were informed that their individual responses would remain confidential and would in no way effect their grades in school. The instructions, which indicate that the subject should circle 'yes' if the statement is true of him or her, or 'no' if the statement is not true, were read aloud to each subject. The instructions also emphasized the necessity of honest responding so that the subject's feelings about him or herself could be accurately assessed. Each item was read aloud by the examiner and the total administration time was approximately 20 minutes.

Each subject's teacher was sent both the Florida Key and the Walker Checklist along with parental consent forms and a cover letter explaining completion procedures. The instructions for completion of the Florida Key scale requested that the teacher rate the student's behavior compared with other students of the same age, and explained that this instrument was designed to help assess how the student perceives his or
her learner self-concept. This instrument required about five minutes for completion. The Walker Problem Behavior Identification Checklist involved recording problem behaviors which the student typically exhibited and took about 10 minutes to complete. Both questionnaires were returned to the examiner by mail.

A total of 18 subjects were administered the Piers-Harris Scale, but data from the Florida Key and the Walker Checklist were only available on nine of the subjects.

Results

As with any special population in which it is difficult to obtain research measurements, only a relatively few subjects were available for study. Reflecting this, the data analysis strategy followed the position of Lawlis (1976) in empirically comparing the study sample to the normative data available on the study variables. One sample t-tests were utilized to make these comparisons. For the Piers-Harris Children's Self-Concept Scale, a t-test was conducted on the total score obtained from 18 subjects. T-tests were conducted for each of the individual factors of both the Florida Key and the Walker Problem Behavior Identification Checklist data collected on nine subjects.

The results of the one-sample t-tests of the Piers-Harris Scale indicated that the physically handicapped respondents scored significantly higher than the normative sample, $t(17) = 3.726$, $p < .05$, in the direction of good self-concept. T-tests
conducted on each of the four factors of the Florida Key—Relating, Asserting, Investing, and Coping—indicated that only the Relating factor differed significantly from the available norm. Specifically, physically handicapped children received higher scores on the items loading on the Relating factor than did the normative sample of Australian children, $t (8) = 6.642, p < .05$, in the direction of good reading ability. Analysis of the data obtained from the five factors of the Walker Checklist indicated that physically handicapped males scored significantly lower on the Acting-Out Scale (less acting-out behavior) than the normative sample, $t (5) = -9.42, p < .05$.

Table 3
Comparison of Normative and Sample Means of Piers-Harris Self-Concept Scale, Acting-Out Scale of Walker Problem Behavior Identification Checklist and Relating Scale of Florida Key

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Piers-Harris</th>
<th>Acting-Out (males)</th>
<th>Relating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normative Mean</td>
<td>51.84</td>
<td>3.20</td>
<td>25.275</td>
</tr>
<tr>
<td>Sample Mean</td>
<td>59.72*</td>
<td>.333*</td>
<td>27.333*</td>
</tr>
</tbody>
</table>

*p < .05.

Discussion

The passage of P.L. 94-142 has stimulated much interest in the educational mainstreaming of handicapped children. Amidst the resulting controversy concerning budget considerations, definition of the "least restrictive environment,"
teacher work load, and the possibly adverse effects of mainstreaming on regular classroom education, it is important not to lose sight of the necessity of evaluating the advantages and disadvantages to the handicapped children themselves. The research to date has produced inconclusive results concerning the effects of mainstreaming on various aspects of the functioning of handicapped children, such as self-concept. This study was an attempt to examine the effect of educational mainstreaming on the self-concepts of ambulatory physically handicapped children.

The results of this investigation do not support the original hypothesis which stated that mainstreamed physically handicapped children would demonstrate lower self-concept than their nonhandicapped peers educated in regular classrooms. The current findings suggest that there may be no significant difference between mainstreamed handicapped children and nonhandicapped children along several self-concept/behavior dimensions. In fact, some mainstreamed physically handicapped children may indeed exhibit better self-concept, increased relating to peers and teachers, and less acting-out behavior (among males) than the nonhandicapped populations from which the normative data for each measure were obtained. It would, however, be misleading to make any broad generalizations from these results given the small sample size and the unusual nature of some of the normative data utilized. It is nonetheless believed that some useful information can be gleaned.
Based on the current findings it seems reasonable to suggest that the educational mainstreaming of physically handicapped children probably does not impair or decrease self-concept, though it would be premature to assert that mainstreaming alone enhances self-concept. It is thought that the enhanced overall self-concept demonstrated by these children may be more reflective of their experiences at the Scottish Rite Hospital for Crippled Children than of mainstreaming per se. Children receiving treatment at the Scottish Rite Hospital are encouraged to take a very realistic perspective on their handicapping conditions. The staff interact with these children in a very supportive, yet matter-of-fact fashion which promotes full participation in all activities of which the child is capable, as well as healthy acceptance of the physical limitations that do exist. The result seems to be children who are accepted and treated as individuals with varying strengths and weaknesses, rather than as physical conditions. To the extent that the attitudes of others are internalized and the child is encouraged to draw upon his or her personal assets, self-concept ought to be substantially augmented. It is impossible to determine the nature of the interaction between the children's experiences at Scottish Rite and their education in the mainstream from these data, but this interaction is believed to be an important one worthy of further investigation.
There are problems with the dependent measures used in the present study. Reference has been made to the unavailability of normative data for the Florida Key necessitating the use of Australian norms. Comparison of the current data to these Australian norms is of questionable reliability and validity and therefore the results obtained must be interpreted with caution. Similar problems were encountered regarding the lack of normative data pertaining to the six factors of the Piers-Harris scale. Consequently analysis could only be conducted using the overall self-concept scores despite previous discussion of the hazards of assuming self-concept to be a unitary entity. It is strongly recommended that future researchers in this area take special care to select measures which reflect the multidimensionality of self-concept. In that way the specific aspects of self-concept regarding handicapped and nonhandicapped children can be more thoroughly evaluated.

It is hoped that research evaluating the efficacy of the educational mainstreaming of specific populations of handicapped individuals will continue and that efforts will be made to determine which populations under what conditions will benefit from educational mainstreaming versus special education, and how these groups compare with nonhandicapped children. In this way we can hopefully strive to truly provide the best education possible in the least restrictive environment.
Appendix A

FLORIDA KEY: ELEMENTARY FORM GRADES 1-6

This scale is to assist you, the teacher, in assessing how the student perceives his or her "learner" self. Please select one of the following answers and record the number in the blank space provided.

VERY NEVER: 0  SELDOM: 1  ONCE IN AWHILE: 2  OCCASION- 3  FAIRLY 4  VERY 5

Name of Student_________________________Teacher_________________________

Date_____________________________

Compared with other students of the same age, does this student:

1. get along with other students? ______
2. get along with teachers? ______
3. keep calm when things go wrong? ______
4. say good things about his/her school? ______
5. tell the truth about his/her school work? ______
6. speak up for his/her own ideas? ______
7. offer to speak in front of the class? ______
8. offer to answer questions in class? ______
9. ask meaningful questions in class? ______
10. exhibit confidence in his/her school work? ______
11. persist in his/her school endeavors? ______
12. talk to others about his/her school work? ______
13. join in school activities? ______
14. seek out new things to do in school on his/her own? ______
15. offer to do extracurricular work in the classroom? ______
16. spend time helping others? ______
Appendix A—Continued

17. shown an interest in others work? ___
18. show interest in being a leader? ___
19. initiate school projects? ___
20. finish his/her school work? ___
21. pay attention to class activities? ___
22. do his/her school work carefully? ___
23. talk to teachers about personal concerns? ___

STANDARDIZED TEST ASSESSMENT OF THIS STUDENT'S INTELLECTUAL FUNCTIONING: (Circle one)

SUPERIOR     HIGH AVERAGE     AVERAGE     LOW AVERAGE     BORDERLINE
References


Safer, N. D. *Teacher expectancies and their implications for teaching retarded students.* In J. Gottlieb (Ed.) *Educating...


