The Effect of Different Educational Placements on the Multidimensional Self-Concepts of Students with Mild Disabilities: Preliminary Results of a Meta-Analysis

Roselyn M. Dixon and Herbert W. Marsh

Faculty of Education
University of Western Sydney Macarthur

email: rdixon@uranus.nursing.su.edu.au

This paper reports preliminary findings on a larger meta-analysis of research comparing children with and without disabilities on multiple dimensions of self-concept. The larger meta-analysis is examining how differences in the self-concept of these children can vary as a function of age, nature and severity of the disability, the component of the self-concept and nature of the school and institutional setting.

The meta-analysis reported here focusses on the effect of different educational placements on the academic and global self-concept of children with mild disabilities.

The studies selected in this review compared the self-concept of students with mild disabilities in different types of educational settings. They were analyzed using the statistical techniques developed by Glass, McGaw and Smith (1981). All results were translated into a standard "effect size metric". Mean effect sizes were compiled from global and academic domains of self-concept for different placement settings.

As there were only 12 studies that met the criteria for inclusion in the meta-analysis they were subjected to an evaluative integrative review.

There was a modest positive effect favouring the impact of segregated placement on self-concept of children with mild disabilities. The
results were discussed in the framework of social comparison theory and Big Fish Little Pond Effect.

INTRODUCTION

The Regular Education Initiative (REI) and the movement for full inclusion have had extensive influence at a philosophical and policy level on the placement of children with disabilities in the past decade. As with any innovation there has been indifferent success and policies have not always been implemented ideally. There is definite evidence that children, particularly those with mild disabilities, are being moved out of special schools (the most segregated setting) to special classes. Dempsey and Foreman (1997) predict that special schools in NSW will exhaust their enrolments in 16 years. The Department of School Education has just released the McRae Report (1996) for public comment. The trend towards the least restrictive educational placement for students with disabilities has resulted in substantial changes in the education provided for them. The efforts at inclusion have required educators to rethink the educational placements of all students with disabilities. However, the greatest impact has been on students who could be characterised as having mild academic disabilities. The students are usually referred to as learning disabled or as having mild intellectual disabilities. These are the students assessed as being most eligible for inclusion.
Although the benefits of inclusion for academic achievement have been a focus, a more persistent theme has been the impact that special education may have on the self-concept of exceptional learners. Self-concept is now recognised as either a contributing cause or an important outcome in education. (Chapman, 1988) Developing and maintaining a positive self-concept has been considered particularly important in educational programs designed to meet the needs of exceptional learners. The strong relationship between a student's self-concept, level of functioning and school success suggest that one criterion for choosing appropriate educational placements for students with mild disabilities should be the impact on self-concept.

The literature reports conflicting findings on the effect of different special education placements on self-concepts of children with mild intellectual disabilities.

Labelling theory

Students with mild academic disabilities were placed increasingly in special classes during the 50's and 60's. However, the mandating of least restrictive placement and the full inclusion movement has meant that many children with mild academic disabilities now receive instruction in the inclusive setting. The move away from segregated settings was, in part, based on the assumption that identifying children as special and isolating them results in a decrease in
self-concept. This is because of the stigmatising effect of handicapped labels (Dunn, 1968; Coleman, 1983; Wang and Birch, 1984a).

Despite the substantial and continuing impact that labelling theory and REI has had in special education placement policy there are few empirical studies that actually support the impact of labelling on the self-concept of children with mild disabilities (Coleman, 1983). There has been greater empirical support for a competing theoretical stance, Social Comparison Theory.

Social Comparison Theory

Social comparison theory (Festinger, 1954) suggests that in the absence of objective standards for comparison, people will employ others in their environment to form estimates of their self-worth. Given the choice of relatively similar or dissimilar others, similar others are more likely to be chosen as basis for social comparison.

Social comparison theory hypothesizes that children compare their own academic ability to the other students in their reference groups. They then use this relativistic impression as one basis of forming their own academic self-concept. If equally able students have lower academic self-concepts when they compare themselves to more able students and higher academic self-concepts when they compare themselves to less able students, then this is known as the big-fish-little-pond effect.
A growing body of research on BFLPE (Marsh and Parker, 1984) indicates that children with mild intellectual disabilities are likely to have lower self-concepts if placed with more able children.

Although research on the BFLPE has typically focused on broad representative samples, the results have important implications for integration and inclusion policies in NSW. From a social comparison perspective, the basis of BFLPE, segregated placement can not be automatically linked to a drop in self-concept. On the contrary, social comparison theory would suggest inclusion exposes children with mild disabilities to negative comparisons.

An early but often cited study of Johnson (1950) found that the academically handicapped were often rejected by non handicapped students. Students with academic handicaps suffered from decreased self-concept and they would exhibit higher self-concepts if they were placed in special classes.

Burns (1982) reviewed research on the effects of placing children with learning disabilities in special schools. He concluded that placement
in special schools instead of normal classrooms resulted in an improvement in self-concept. Self-concept was positively related to the length of time the students spent in the special schools. He interpreted these results as favouring social comparison theory.

Chapman (1988) conducted a meta-analysis of studies of the self-concept of children with learning disabilities. Of particular relevance was Chapman's analysis of self-concepts according to placement environments. In his review he compared students with learning disabilities in three environments: a) completely segregated special classes, b) partially segregated for some classes or remedial work and integrated in regular classes with regular students, and c) unplaced students with learning disabilities who were receiving no assistance. Most of the studies compared students with learning disabilities in one or more settings with students with no disabilities.

Whereas children with learning disabilities in all three settings had poorer self-concepts than students without disabilities, the settings did make a difference. For general self-concept students in fully integrated and partially segregated settings did not differ from each other but had better self-concepts than unplaced students with learning disabilities in regular classrooms. For academic self-concept fully segregated children had higher academic self-concepts than partially segregated students and both groups had substantially better self-concepts than unplaced students in regular classrooms. The interpretation of the Chapman (1988) results in relation to social
comparison theory is complicated by the confounding in the different settings. The most direct test is a comparison between students with learning disabilities and unplaced students in regular classrooms. This comparison provides clear support for social comparison theory, but is complicated by the special assistance received by children with disabilities in the fully segregated setting: the better self-concepts may be attributable to social comparison processes, to the special assistance or to their combination. Comparisons involving students in partially segregated settings are even more complicated. The amount of special assistance received by these children is likely to vary considerably from study to study and these children have the choice of making comparisons in relation to LD classmates in their segregated classes or non LD classmates in their unsegregated classes. Furthermore, the students themselves may not be comparable in characteristics such as ability levels and social skills.

Other research has also yielded results that challenge the REI assumption that placement in regular classes enhances the self-concept of children with mild disabilities. Yauman (1980) found no differences in self-concept between children placed in self-contained classrooms and those mainstreamed into regular classrooms. Ribner (1978) found poorer self-concepts among identified but not yet placed children in regular classrooms than among children with learning disabilities who received services in special education classrooms. Both Coleman (1983)
and Foreman (1988) found no differences. Renick and Harter (1989) found that children with learning disabilities perceive themselves to be less academically competent in the regular classroom than in the resource room. In a more recent study Butler and Marinov-Glassman (1994) compared children with learning disabilities in special schools and special classes with partial integration and low achievers in Israel. On Harter's Scale, they found that at the Grade 5 level contact with normally achieving peers was undermining perceived competence and that this trend continued into adolescence. They found higher levels of personal competence in students in homogeneous settings. Finally Silon and Harter (1985) in a study using students they characterised as educable mentally retarded (EMR), found no differences in self-concepts of children placed in integrated settings or segregated settings. In an interesting innovation they interviewed the participants to ascertain what reference groups they were using. They concluded that their results supported social comparison processes as the mainstreamed children used other children with disabilities in the mainstream as their major reference and the segregated children used the children in their classes as their reference group.

Results from both the BFLPE studies and studies of the different placement environments for exceptional children provide reasonably clear support for social comparison theory and little or no support for traditional interpretation of labelling theory.
There have been a number of studies that have compared the self-concept of placement effects but the results in this area are perplexing or equivocal (Chapman, 1988; Madden and Slavin, 1983). Some studies have suggested that special class placement leads to poorer self-concept, some have suggested that there is increased self-concept and some have found no difference.

However, most of these studies are correlational or cross-sectional using matched samples in other settings. Madden and Slavin (1983) believe that these studies are of limited usefulness because they do not take into account the reasons why one student is placed in segregated placement and another is integrated. Often these reasons do not relate to the category of disability but are more likely to relate to achievement level, social skills and/or behaviour problems (Dempsey and Foreman, 1997). These unmeasured attributes are more likely to discriminate against students assigned to segregated placements.

These and other serious methodological flaws led to the conclusion that the inclusion vs segregation question is still unanswered. However, it is clear that many children with mild disabilities do not benefit from being fully integrated into regular classrooms. There is a wide variation in the existing research literature about how the self-concept interacts with the type of program in which the students are placed.
The wide variation in findings in this area can be explained in certain conceptual and methodological problems that occur in this area. For example, most research is done with small idiosyncratic samples of children with disabilities. Experimental designs are typically weak and there are seldom adequate control groups. Often constructs are vaguely or globally defined and measures may not be well normed. These methodological weaknesses make it difficult to make generalisations or conclusions.

As there is little evidence that integration policies are likely to change, a better understanding of these processes would allow us to predict students who might benefit from different types of settings.

WHY A META-ANALYSIS WAS NECESSARY

Meta-analysis is ideally suited to addressing many of the problems outlined above. It will provide a stronger basis of generalisation across existing research. It will allow us to determine whether differences between disabled and non-disabled students are larger in fully integrated settings than in fully segregated settings, how consistent these results are across different settings and, if the results are not consistent, what study characteristics are related to differences in outcome.
PURPOSE OF THE STUDY

The purpose of this study is to report on a meta-analysis of the relationship between self-concept and educational placement in students with mild disabilities. This forms part of a wider study which will examine differences in self-concept of students with disabilities: as a function of age; the nature and severity of the disability; the component of self-concept and its relation to the disability.

METHOD

The studies selected in this review were investigations that compared the self-concept of students with mild disabilities in different types of educational settings.

The following data bases were searched: PsyLit (1967-present), ERIC (1966-present) and AUSTROM. Other studies were identified through references in studies from the initial computer search or had been referenced in previous reviews of the literature. Studies reported other than in English were not reviewed and although Dissertation Abstracts International were searched the results will not be included in this paper.

As we were trying to assess the BFLPE for students with mild disabilities

To be included in the meta-analysis the studies had to

1) assess self-concept in different educational placements,
2) include children with mild disabilities,

3) include pre- and post-testing or randomisation followed by post-test after placement, and,

4) have data reported in enough detail to assess effect size.

Studies that investigated placement effects using only correlational or cross-sectional experimental designs were not included. Two studies were included in the discussion because they provided insights into the effects of educational settings on children with mild disabilities. They could not be included in the meta-analysis because they were published with insufficient data.

MILD DISABILITIES

In their 1983 review of mainstreaming students with Mild Academic Handicaps, Madden and Slavin (1983) outlined the difficulty in the definition of the learning problems of students who receive special education. Chapman (1988) also found wide variations in the criteria used to identify students. Previously, there was a clear conceptual distinction between mild mental retardation and learning disabilities based on an IQ score. More recently, there has been disagreement of the validity of this distinction. The non-categorical or cross-categorical approach of the 80's was based on Hallahan and
Kaufman's contention that few differences could be found between students with mild intellectual disabilities and those students with learning disabilities (cited by Polloway, Patton, Smith and Buck, 1997). Whilst these issues are still contentious, for the purposes of this meta-analysis it was decided to include studies using both populations, as use of these terms has changed over time. Students identified as having learning disabilities today may have been identified as students with mild mental retardation in previous decades (Polloway et al., 1997). The terminology the authors used will be maintained.

DATA ANALYSIS

The experimental studies used in the meta-analyses were analyzed using the statistical techniques developed by Glass, McGaw and Smith (1981). All results were translated into a standard "effect size metric". Mean effect sizes were compiled from global and academic domains of self-concept and for different placement settings.

Major Characteristics of Study Coded

Variables that were coded included general features of the study and publication source, the criteria used to establish the nature and type of the disability, and the content and quality of the self-concept scales. Coding of the study features was conducted separately from the actual calculation of the effect sizes in order to avoid bias. Fifty
percent of the studies were randomly selected to be coded independently by two trained raters. One was a graduate student with a Masters in Education, the other was an experienced academic. Interrater reliability was extremely high.

As there were few studies that met the criteria an evaluative integrative review was attempted.

The studies included in the meta-analysis are summarised in Table 1.

<table>
<thead>
<tr>
<th>Study</th>
<th>Age</th>
<th>Disability</th>
<th>Measure</th>
<th>Self-Concept Area</th>
<th>Setting/Comparison</th>
<th>Direction of Shift</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BFLPE</td>
<td>Battle (1979)</td>
<td>Grade 1-7</td>
<td></td>
<td></td>
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</tbody>
</table>
Mild academic deficits

Canadian Self-esteem Inventory

PAS

Self-esteem (global)

Academic

Special class vs regular class

Regular to placement

Comparison with regular time 1

Pre-post data for special

0.91

Pro BFLPE on both measures

Battle and Blowers (1982)

Grade 1-7

Mild academic deficits

Culture-free Self-esteem Inventory for Children

Perception of ability Scale

Self-esteem (global)

Academic

Special class vs regular class

Regular to placement
Matched groups
pre-post after 2 years placement
0.30
Pro BFLPE on both measures
Beltempo and Achille (1990)
Primary

LD
Piers-Harris
(Global)
Special class
partial special class placement
No placement
NH children in regular class
No effect
Boersma, Chapman, and Battle (1979)
8-12
Mild LD
SPAS
Academic

Special class placement EMR /Special class LD group/NH children in regular class

Regular to placement

Pre-post comparison groups

0.56

Pro BFLPE

Carrol (1967)

8

EMR

IISD

Self-derogation

Special class EMR children/half day integration EMR children

Regular to placement

No random assignment/matched groups T1-T2 data

0.15

Anti BFLPE

Children Without Labels

6-13

EMR

EH

Achievement Deficit

ASCMI
Stick Figure Test (IISD)

Global

Self-Derogation

Children placed in regular classes given remedial support

Segregated to regular with support

T1-T2 data over 2 years

No change

0.06

No effect

Clifford and Mckinney (1974)

8-13

EMR

Self-concept Questionnaire

(developed for study)

Global Self-esteem

Regular class with resource teacher EMR/ Regular class individualised

program EMR/2 special class EMR

Not known

Matched groups across four schools

T1-T2 data

No significant differences

0.07

No effect
Meyerowitz (1962)
Grade 1

EMR
IISD
Self-Derogation
First grade children with Special class EMR/ Regular Class EMR
Regular to special class
Random assignment then T2 data 1 year
-0.03
Anti BFLPE
Myers (1976)
Primary

EMR
Low and High
Piers-Harris Children's Self-concept Scale
Global
Low IQ and High IQ EMR children in Special School Special class and
Regular Class
Regular to different segregated settings
Random assignment then T2 data
Low IQ student in special school had higher self-concept

0.51

Pro BFLPE for low IQ group; others NS difference

Schurr, Towne and Joiner (1972)

Not known

EMR

Self-concept of Academic Ability

(Brookover)

Academic

All EMR students placed in

special class/ Comparison with 7 students reassigned to regular

Regular to special class/ small group special class to regular class

No randomisation Time Series Experiment Pretesting Post testing after 1 and 2 years

Many data points

0.53

Pro BFLPE

Strang, Smith and Rogers (1976)

Experiment 1

Primary

LD but low average IQ

Piers-Harris

Composite

Behaviour
Intellectual and School status

PA
Anxiety
Popularity
Happiness

Comparison between LD children in special class/children in half day integration.

Random assignment
Pretest-post-test after 1 year

-0.65

Anti BFLPE
Strang, Smith and Rogers (1976)

Experiment 2
Primary

LD but low average IQ
Piers-Harris
Composite
Behaviour
Intellectual and School status

PA
Anxiety
Popularity
Happiness
Comparison between LD children all integrated

Special class to half day integration

Random assignment

Experimental manipulation

No means reported.

Pro BFLPE

Vaughn (1996)

Grade 2,3,4

LD

LA

Perceived Competence Scale (Harter and Pike)

Looks

Friends

Global Self-worth

Academics

LD children resource program to integration with support/

LA Compared with Low Achieving and NH children in regular class

Resource room to integrated with support

One school

All three classes

T1-T2 data

0.14

No effect
Calculation of effect sizes (ES)

As there were differences in the way the data were reported, there were two main methods for calculating the effect sizes. For the studies that did not report pretesting but used randomisation and then compared different groups across different settings the ES was the Mean of Group 1-Mean of Group 2 over a pooled SD (Hattie, Marsh, Neill and Richards, 1997).

For studies that were using pretest data and post-test data the formula was T2-T1 divided by the SD of T1.

From the 12 studies it was possible to calculate 44 ES examining global and academic self-concept. Some studies contributed only one comparison and some contributed multiple comparisons. Therefore, some studies will overly contribute to the analysis.

The average ES across all analysis was .18 indicating a modest positive effect for placement in segregated settings. This must be interpreted cautiously as it is based on heterogeneous data.

INTEGRATIVE REVIEW

It can be seen from Table1 that the literature chosen for this
meta-analysis reflects the confusion in this field. Six of the twelve studies support the BFLPE, four show no impact of placement on self-concept and three show the opposite effect to BFLPE.

Anti-BFLPE

All of these studies are widely cited in the research literature. Another widely cited study is that of Calhoun and Elliott (1977). Calhoun and Elliott randomly assigned EMR and ED students to special class or regular class. As measured on Piers-Harris Self-Concept Scale (Piers and Harris, 1969) by the end of the second year children educated in the regular classes had higher self-concepts than those educated in the special classes. This study also used controls for the effects of teachers and curriculum. These results have often been cited in the literature but this study could not be included in the meta-analysis because it was published "in brief" without any data.

The Meyerowitz (1962) study also supported regular class placement over special class placement for EMR children. Meyerowitz used random assignment but there were no controls for the effects of teachers or curriculum. After a year, against the predictions of the author the regular class children were significantly less derogatory.

Carrol (1967) compared the development of self-concept between EMR children who were placed in a half-day program and those who were in a segregated class. Participants were matched on important variables.
Again this study used the Illinois Index of Self-Derogations (IISD) and
the findings were the same as Meyerowitz. Partially integrated
students showed higher self-concepts (fewer self-derogations) than the
segregated students.

Two of the studies which reported results that do not support the BFLPE
used the Illinois Index of Self-Derogation. On this measure a child is
asked to choose which of the two stick figures he was most like. The
figures where then described in opposites. For example one would say
"many children like this child" or "Some children do not like this
child". The number of times the child chose the negative option as
most like them was computed as an index of self-derogation.

Madden and Slavin (1983) feel that the instrument is unusual and of
unknown validity. Whether or not it is really measuring self-concept
is questionable. Madden and Slavin (1983) also claim that careful
analysis of the items indicated that the differences in these two
groups were accounted for by poor peer relationships items for the
special class children.

The third study, included in the meta-analysis, which did not support
the BFLPE was Strang, Smith and Rogers (1978). They tested the
self-concepts of children using the Piers-Harris Scale (P-H) on randomly
selected LD children who were partially integrated. Self-concepts for
these children improved after the shift and were significantly higher
than those of children remaining in the segregated classes. The authors suggest two alternative hypotheses for these results: a) partially segregated children viewed the change as a promotion indicating that they were academically competent, and b) partially segregated children had multiple frames of reference so that they were able to maximise their self-concepts by selectively choosing their references.

No significant findings and placement effects

There were four studies that found no differences for placement effects.

Belltempo and Achille (1996) used the Piers-Harris Scale to assess the impact of placement on four groups of children. The groups were LD in special class, LD in partial integration, LD who were unplaced and non-handicapped children in regular class. Surprisingly they only reported the Global Scale of the P-H. It would have been interesting if they had reported the academic scale of this instrument. Previous reviews of the literature have found no difference for the P-H Scale for LD children from norming samples using only the global scale (Chapman, 1988).

Vaughn (1996) in a one school study, compared LD and Low Achieving with average achieving students using four scales of Harter and Pike (global self-worth, looks, friends and academic) to assess self concept changes.
over 1 year. The LD children had been moved from a resource room pullout program to inclusion in a regular classroom with specialist teacher support. On the continuum of segregation to integration settings, this is the smallest placement shift possible. It may not be strong enough to cause any real change in self-concept as the children may be able to use the same reference groups in the school.

The Children without Labels study placed 90 EMR and educationally handicapped children into regular classes with resource teacher support across 8 schools in a district. They again used the Stick-Figure Test (IISD) and the Auditory Self-Concept Measuring Instrument (ASCMI). There were no changes over time or setting.

Similar non-significant results were obtained by Clifford and McKinney (1974) who used a questionnaire, developed for the study to assess self-esteem. They compared self-esteem of 38 EMR children across three different settings for one year. The settings were regular class with resource teacher support, regular class with individual programming, and 2 special classes.

Pro BFLPE Studies

There were six studies that supported the big-fish-little-pond-effect.
Battle (1979) compared a group of mild children who had shifted from regular to special class were one year, self-concept was assessed using the Canadian Self-Esteem Inventory and Perception of Ability Scale a measure of academic self-concept. The results indicated that special class placement had a positive effect on academic and global feelings of self-worth.

Battle and Blowers (1982) using Culture-Free Self-Esteem Inventory and the Perception of Ability Scale reported positive impact on self-concept over two years. Both global and academic self-concept improved but the magnitude of the change was slightly larger for academic self-concept (Chapman, 1988).

Boersma, Chapman and Battle (1979) confirmed this pattern of results. Over a period of one year they found that full-time special class placement was associated with an increase in academic self-concept as measured by the SPAS. Their study is interesting in that it compared a group of LD children and a group of EMR children. Similar results were obtained for both. They interpreted their results as support for homogeneous grouping and social comparison theory.

Myers (1976) study showed partial support for BFLPE. He randomly assigned groups of high IQ and low IQ EMR to three educational settings, special school, special class and integrated placement. On the global score of the P-H he found that segregated special school placement enhanced the self-concept of low IQ EMR children. He did not
find any differences in educational setting for High IQ EMR children. He concluded that integration model was not clearly supported and that segregated placement could be more suitable for some EMR students.

In a longitudinal investigation of academic self-concept, Schurr, Towne and Joiner (1972) found that, contrary to predictions, academic self-concept increased as a result of special class placement over 2 years. Another interesting aspect of this study is that a small group of their participants were returned to integrated setting after being in segregated placement for a year. Over time, academic self-concept significantly declined after the shift for this group of students.

Strang et al. (1978) in attempt to clarify the finding of the first study randomly assigned children from partially segregated classrooms to experimental and control groups. The saliency of their membership in the regular classroom was enhanced in the experimental group and they reported lower self-concepts than children in the control group on the P-H scale. Only two of the P-H scales contributed to this result they were Intellectual and School status, and anxiety. Strang et al. interpreted their results as providing support for social comparison theory. Unfortunately this study could not be used in the meta-analysis because of lack of data.
Whilst it is probably premature to draw conclusions, a possible explanation for the different and conflicting results concerning the interaction of self-concept and educational placement for student with Mild Disabilities, could focus on the instruments that were used to measure self-concept.

Four out of the six studies that supported BFLPE used instruments that measured academic self-concept (2 of them measured global self-concept as well). The remaining 2 studies used the P-H scale which has an academic sub-scale. No sub-scale data was reported for one study but for the other the Intellectual and School status Scale was the strongest contributor to the significant result.

All studies that found no effect of placement on self-concept, used either Global Self-concept Scales or only reported the Global Scores on the P-H. Myers did find a placement effect for the Low IQ group but none for the High IQ group.

Those studies that reported academic self-concept sub-scales or used academic self-concept instruments found that segregated placement enhanced self-concept except for the Strang et al. study. These authors suggested reasons for their results which supported social comparison theory. Vaughan also reporting academic sub-scales found no impact of educational placement but as discussed before, the social comparison group probably remained unchanged or stable. Many of the
children previously involved in the resource room program could still have been placed in the same class.

The impact of the measure of assessment could also be seen in those studies which did not support BFLPE. The IISD was used in 2 of the three studies that supported integrated placement and in one of the studies where there was no effect of placement. It could be argued that self-derogation is a different construct to self-concept.

Those studies which either used a scale that measured academic self-concept or a scale that included an academic component provided more consistent results and gave some support to the placement of children with mild disabilities in segregated settings.

REFERENCES


