

A META-ANALYSIS REVIEW: DETERMINING SELF-CONCEPT IN PUPILS WITH AND WITHOUT LEARNING DISABILITY

Zeinab Mihandoost

PhD student of educational psychology, University Putra Malaysia

Abstract

This study employed meta-analysis procedures to summary experimental analysis studies and comparison studies of self-concept in learning disability pupils and non learning disabilities pupils to better description practice and suggest areas for future research. Researcher conducted a systematic review and meta-analysis between 2003 and 2010. Standardized methods of searching were employed. Combination effect sizes were determined using random effects models. Four studies were identified. In meta-analysis, education interventions were significantly associated with increased self-concept for experimental groups, (odds ratio [OR]: 271.76; 95%, confidence interval [CI]: 55.54, 1329.90) was statistically significant ($p < .01$). The comparison groups, (odds ratio [OR]: 2.62; 95% confidence interval [CI]: 1.64, 4.20) was statistically significant ($p < .01$).

Key words: meta-analysis, self-concept, learning disabilities, non learning disabilities, students

Introduction

The self-concept of students with learning disabilities (LD) has received a great deal of attention in the literature. The psychological construct, self-concept, is thought to reflect a child's view of their own standing as compared to other children. This self-concept is thought to develop during task-oriented interactions with significant others and reflects the child's performance during various evaluative situations (Harter, 1985).

Self-Concept

Students with Learning disability have been described in the literature as having poor self-concepts. A review of the research suggests that although the students with LD never demonstrate more positive self-concept than their peers, their negative judgments may be limited to their performance on academic tasks (Mihandoost, Elias, Nor, & Mahmud, 2010; Wong, 1991). The latest available review of self-concept research on students with LD (Seráfica & Harway, 1979), indicated that students with LD demonstrated lower overall self-concept than students without LD. Later studies considered self-concept to be a multidimensional construct, according to which individuals' self-evaluations may differ by domain (academic, social, physical, etc). This refinement in the conceptualization of self-concept allowed a more nuanced interpretation of the differences between students with and without LD. For example, Chapman's (1988), review included separate analyses of differences between children with and without LD in general and reading self-concept. Of the 21 studies that included measures of general self-concept, also referred to as global self-concept or overall self-worth, only 5 indicated a significant difference between students with and without LD. In contrast, when the results of the 20 studies that compared students on a measure of reading self-concept were combined, on average students with LD had scores that were 0.81 students with disability units lower than those of nondisabled students.

Separate findings for reading and general self-concept were also reported in a meta-analysis by Prout, Marcal, and Marcal (1992). Compared students without disability, students with LD showed a self-concept disadvantage of .43 SD on measures of general self-concept and .71 SD on measures of reading self-concept. Based on the statistically significant differences found in both analyses, Prout, et al (1992), Concluded that the lower self-concept of students with LD is not confined to the academic domain but also affects more global perceptions of self-worth. Learning disabilities have been found to affect mental, self-esteem, and the social activities of children (Johnson, 1995). Students, who have experienced humiliation, refusal, and failure, as many children with LD have,

generally have feelings of low self-worth and vulnerability (Hughes & Baker, 1990). Researchers' concern in the self-concept of students with LD has increased given the concern that their reading failure may affect their global self-concept (Cooley, 1992). Nevertheless, the study literature on self-concept in students with LD shows mixed findings and is often contradictory (Gresham & MacMillan, 1997).

A large part of study has explained the educational self-perceptions of students with LD. Many researchs have maintained that despite the LD label, these students retain a positive self-concept about their reading skills. Meltzer, Roditi, Houser and Perlman (1998), used the children self-report system in a research with fourth- through ninth- grade students and found that students with LD considered themselves as using appropriate strategies in the areas of reading, writing, spelling, math, and organization and as being competent in those domains. They also rated their educational performance and association as average to above average. Bear and Minke (1996), using the self-perception profile for children with third-grade students, found that children with LD did not perceive themselves to be any less competent in their schoolwork. Numbers of studies have maintained that despite the lower self-concept in students with LD in the intellectual domain, the children maintain positive feelings of global self-worth. Bear and Minke (1996), and Bear, Clever and Proctor (1991), found no differences in global self-worth between children with LD and their peers without LD. Rothman and Cosden (1995), employed the Heyman's Self-perception of a Learning Disability Scale with third through sixth-grade children with LD and found that children with less negative perceptions of their LD perceived a more positive global self-concept, more intellectual and behavioral competence, and more social acceptance than students with LD who had more negative perceptions of their LD. Nevertheless, sufficient global self-concept between students with LD has not been a consistent finding by researchers (Chapman, 1988). Harter, Whitesell and Junkin (1998), found that characteristically achieving students reported further positive global self-worth and positive evaluations of their self-worth than did students with LD.

Researchers have obtainable some clarifications for why many students with LD do maintain positive self-perceptions and feeling of self-worth in spite of their academic difficulties. Factors such as apparent social maintain and favorable feedback from others, especially teachers, parents, friends, and peers (Kloomok & Cosden, 1994; Rothman & Cosden, 1995), and perceived competence in domains other than academic seem to aid in elevating their self-concept (Hagborg, 1996). Renick and Harter (1989), shows that students with LD who compared themselves to others with LD felt better about their performance than children with LD who compared themselves to their peers without LD. Beltempo and Achille (1990), found that when students with LD were located in a combination of partial special education settings and general education classrooms, they reported higher self-esteem than children with LD in other settings.

"A positive self-concept is important because how one perceives and values oneself determines to a large extent how one behaves, copes with life and manages one's life" (Pollard & Hillage, 2001). According to Pollared and Hillage (2001), a poor self-concept may play a central role in causing a child to be victimized by peers, in that children who do not feel that they 'fit in' with their peer group are more likely to be anxious and respond submissively during conflict, and thus they are more likely to be bullied by peers. Coopersmith (1967), agrees that individuals who regard themselves negatively are more likely to be "intropunitive" and passive in adapting to environmental demands and pressures. A low self-concept has been associated with many serious outcomes, such as inattentiveness (Singer, 2005), poor school performance (Elbaum & Vaughn, 2003), low motivation for school work (Singer, 2005), and a higher risk of school dropout (Elbaum & Vaughn, 2003; Singer, 2005).

Table 1. Number of studies

Studies	Sample size	Instrument	Treatment	Age	Result
1. The Effectiveness of the Intervention Program on the Attitude and Self-Concept of students with dyslexia (Mihandoost, 2010).	64	Reading Self-Concept Scale (Chapman and Tunmer, 1995)	Barton Program	10- 12	The results shows that a statistically significant difference in self-concept between the dyslexic students in control and experimental groups.
2. Differences in self-concept among student with and without learning disabilities in Karaka district in Jordan (Al Zyoudi, 2010)	124	Piers-Harris Children's (Piers, 1994)		9- 14	The result shows that significant differences between the LD and non LD in terms of all the subscales of self-concept.
3. Academic self-concept, reading attitudes and approaches to learning of children with dyslexia: do they differ from their peers? (Polychroni, 2006)	242	Students' Perception of ability Scale (SPAS: Boersma & Chapman, 1992).	Receiving reading programmers outside school	10 -12	The result shows that significant differences between the LD and the two groups of different abilities in terms of all the subscales of self-concept investigated.
4. Comparing the Self-Concept of Students With and Without Learning Disabilities (Gans, 2003)	120	Piers-Harris Children's (Piers, 1994)		11-14	The result shows that there is a statistically significant difference in behavior, intellectual and school status between the dyslexic students and non-dyslexic students.

Method

Data collection

In this study I used full Text electronic databases were searched for articles in March 2011 using the terms "Intervention program and self-concept" and "self-concept in LD and non-LD students". The next steps were used to compare articles in order to find data usable for the current meta-analysis:

1. The study involved children in grades two to nine.
2. The interventions were described with detail.
3. The study was published
4. The study presented quantitative data.
5. The study was written in English.

After identifying articles appropriate for the review from the electronic searches, the references of identified articles were reviewed to identify potential additional articles. Finally, the first authors of some identified articles who have e-mail address in the article was contacted and asked if any additional relevant articles were in press or otherwise missed by the procedures. In total, four articles were found.

Categorization of Articles

I categorized each case across every one of studies by intervention and comparison self-concept between LD and non LD students. The articles were then independently coded by the author.

Description

In this study I examined the effectiveness of interventions program expected at enhancing the self-concept of students with LD. In that study, I examined intervention outcomes were related to the type of intervention that was implemented, the elementary and secondary level of the students involved, and the dimension of self-concept that was measured. A total of four studies published in 2003, 2006, and 2010, met the students with LD who received an intervention program were compared to similar students who did not receive an intervention program and also compared between LD and non LD students. The data reported in the study were sufficient for the calculation of an effect size. The two studies included a total of four independent comparisons of treatment and no-treatment groups. Interventions were including: Orton- Gillingham, and Barton program. The students participating in the study was coded as elementary and secondary range.

Meta-analysis

I transformed effect size estimates to the regular metric of an odds ratio since all studies compared two groups and descript dichotomous outcomes. I used standard meta-analytic methods to obtain standardized effect size estimates (Cooper & Hedges, 1994) and employed the software Comprehensive Meta-Analysis, Version 2 to conduct statistical analyses. For each outcome, I entered the odds ratio straightly into the program or calculated the odds ratios from the percentages descript in the article. Odds ratios were pooled using random effects models.

Results

This study I used four relevant articles discovered in the internet. The characteristics of each study are detailed in Table 1. Of these four studies, they are conducted respectively in the United States, Greece, Iran and Jordan. Two studies (Mihandoost, et al., 2010; Polychroni, Koukoura, & Anagnostou, 2006), were experimental and other two studies (Al Zyoudi, 2010; Gans, Kenny, & Ghany, 2003), were comparison. The meta-analysis of these four studies (see table 2 and table 3), showed a statistically significant, for experimental groups, OR: 271.76; 95% CI: 55.54, 1329.90 was statistically significant ($p < .01$) (see Table 3), but the Q statistic for heterogeneity of .317 was not statistically significant ($p < .57$). The comparison groups, OR: 2.62; 95%CI: 1.64, 4.20 were statistically significant ($p < .01$) (see table 2), but the Q statistic for heterogeneity of .06 was not statistically significant ($p < .81$). In this study the sensitivity of the Q statistic is low because a few studies (e.g., $n < 20$) are included in the meta-analysis, so that the test could fail to detect even a moderate degree of heterogeneity.

Discussion

The results of this meta-analysis submitted four studies. In this research I used two study designs: First study design were the effectiveness Intervention program on self-concept in LD students and second study designs were compared self-concept in LD and non LD students. The combined data from these studies showed that statistically significant. The findings reported in this study confirmed, the findings of other meta-analysis of self- concept (e.g., Elbaum & Vaughn, 2003). A significant association was found between intervention program and self-concept of students with learning disability. Also significant was found between LD and non-LD students in self-concept. The result of the meta-analysis by Elbaum and Vaughn (2003), shows that the intervention program can lead to beneficial changes in the self-perception of students with learning disabilities. The results that students with LD have a low self-concept with consider to their peers without can provide direction for teacher s. Some studies have proposed that teachers be aware of the probable stigmatizing effects of the option procedure for special education on students with LD (Ston, 2004). Educators who work with students with learning disabilities need to identify how to avoid low self-concept in these students and be aware of the interventions accessible to help them. These results

can help teachers for developing programs and methods to support students with LD to increase a sense of achievement in their school.

Limitations

The most apparent limitation of this study is the relatively small number of samples that provided data for the analyses. Limitations to the meta-analysis and the included studies should be considered when interpreting these findings. We averaged the results of all definitions for each outcome across the different groups' studies, and used that result in meta-analysis.

Summary

In summary, this is not the first meta-analysis of the effectiveness intervention programs on self-concept s in students with LD and also this is not first systematic review and meta-analysis of the comparing between LD and non LD students in self-concept. The findings provide evidence that Intervention programs are effective at improving self-concept in students with learning disabilities.

Implications

The important implication of this study for research on the self-concept of students with LD is that researchers should description data at the individual level as well as at the group level. Even if students are randomly assigned to treatment and comparison groups, pre-test scores on a measure of self-concept should be reported. In addition, researchers should cite normative information for the outcome measure, so that it is possible to interpret whether and to what extent the self-concept of students in the study is in fact low. Much previous research that has compared the self-concept of students with and without LD has noted that students with LD have lower self-concept than their peers without disabilities; what is not stated is whether such differences are really meaningful. A lower-than average self-concept score may have practical and clinical significance for only a subgroup of students with LD. With regard to school-based interventions, the implications of the present study primarily concern the selection of students for intervention. Given the demonstrated variation in the self-concept of students with LD, it is no longer acceptable to target students for self-concept interventions based solely on the criterion that they have been identified as having LD. Interventions not only are costly for schools to provide but have costs for students as well, especially in terms of reduced instructional time. Students with LD, who by definition have academic difficulties in one or more areas of the curriculum, can ill afford to be included in interventions that they do not really need and from which they do not benefit. Reduction in instructional time should be determined based on a student's individual need for a given intervention and on the likelihood that that individual student will derive significant benefit.

Conclusion

Psychologists are structuring research in perceptive the focus purpose of self-concept for students with learning disability. The articles comprise in this particular issue help to highlighting the consequence of self-concept in determining a multiplicity of shapes of reading. Self-concept is infused in classroom time, take element in center functions in common contact. The complexity and active life of self-concept create them hard to study. Accordingly, the field would improvement expansively from an increase in practical, theoretically, and experimentally study making an allowance for self-concept in reading locations. I hope that the articles in this particular issue will support others to combine self-concept their enduring programs of psychological study.

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Table 2. Summary of Meta-Analysis of Results for Comparison Self-Concept in LD and Non-LD Students

Study name	Statistics for each study					Odds ratio and 95% CI
	Odds ratio	Lower limit	Upper limit	Z-Value	p-Value	
Gans (2003)	2.475	1.269	4.827	2.658	0.008	
Al Zyoudi(2010)	2.776	1.430	5.387	3.018	0.003	
	2.622	1.638	4.198	4.014	0.000	

Table 2 shows that positive effect on this outcome, odd ratio [OR]: 2.622, 95% confidence interval [CI]: 1.64, 4.20, Z-Value=4.01 was statistically significant ($p < .01$).

Table3. Summary of Meta-Analysis of Results for Interventions for Self-Concept in LD and Non-LD students

Study name	Statistics for each study					Odds ratio and 95% CI
	Odds ratio	Lower limit	Upper limit	Z-Value	p-Value	
Mihandoost	465.000	40.031	5401.407	4.909	0.000	
Polychroni	184.412	22.953	1481.625	4.907	0.000	
	271.764	55.535	1329.899	6.918	0.000	

Table 3 shows that positive effect on this outcome, (odd ratio [OR]: 271.64, 95% confidence interval [CI]: 55.54, 1329.90). The Z-Value, 6.92 was statistically significant ($p < .000$).