

Self-Efficacy, Achievement Motivation, and Academic Progress of Students with Learning Disabilities: A Comparison with Typical Students

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Abstract

Introduction: Many factors including self-efficacy and achievement motivation can affect children's academic progress. Studies have shown that socioeconomic status can affect people's life, education, and vocation. However, not many studies looked at the relations between the intrinsic factors and socioeconomic status, and between these 2 categories and students' academic progress in children with learning disabilities. Thus, the present study aimed at examining self-efficacy, achievement motivation, and academic progress of students with learning disabilities compared with typical students and looking for any possible relation between these variables and socioeconomic status (parental education and occupation).

Methods: This was a cross sectional study, which included 34 students with learning disabilities and 32 typical students matched on age, gender, and school grade. The participants answered Sherer et al.'s self-efficacy scale (1982) and Herman's achievement motivation questionnaire (2000). Students' academic progress was evaluated based on the descriptive scores in the first semester.

Findings: Scores of children with learning disabilities in self-efficacy, achievement motivation, and academic progress were significantly lower than those of matched controls ($P < 0.0001$). Results revealed moderate positive correlations between academic progress and different levels of self-efficacy ($r_s = 0.441$, $P < 0.0001$, $N = 66$); and between academic progress and achievement motivation ($r_s = 0.645$, $P < 0.0001$, $N = 66$). The results of the correlation analysis demonstrated weak to moderate positive correlations between academic progress and parental education ($r_s = 0.39$, $P = 0.001$), academic progress and father's occupation ($r_s = 0.323$, $P = 0.008$), achievement motivation and parental education ($r_s = .34$, $p = 0.009$, $N = 66$), and finally achievement motivation and father's occupation ($r_s = 0.285$, $P = 0.02$, $N = 66$).

Conclusions: Lower levels of self-efficacy and achievement motivation in students with learning disabilities indicate that relying on only Individualized Educational Program cannot solve problems of these children. The relations between academic progress and different factors (intrinsic and environmental) suggest a complex explanation for the children's lower academic progress.

Keywords: Learning Disorders, Self-Efficacy, Socioeconomic Status

1. Introduction

Learning disabilities (LDs) as a major cause of poor educational performance (1) affect 11.4% of all school-aged children (2). LDs is diagnosed when the child's progress on the standardized tests in reading, mathematics, and writing skills is significantly below the expected level of the child's age, grade, and his/her IQ (3). These groups of children are dealing with many problems that cause lack of self-efficacy, achievement motivation, and academic progress (4, 5).

Self-efficacy is one of the most important concepts in learning theories. According to Tsang's view, self-efficacy refers to "a person's attitude about his/her abilities to perform a task or job successfully" (6). In a study, Purzer (2011) found that self-efficacy beliefs could affect people's efforts

and eventually make them successful (7). In another study, Hashemi (2011) indicated that students with lower level of self-efficacy made less effort and avoided to do challenging tasks (8). Alaei et al. (2012) revealed self-efficacy had a significant positive relationship with educational performance. These researchers also found that students with LDs had lower scores in self-efficacy and achievement motivation (9). What is not explained by these studies was the relation between self-efficacy with other intrinsic factors such as achievement motivation and environmental factors.

Achievement motivation, as another important element in children's learning attitude, is a person's desire or passion to achieve success and participate in activities

in which success depends on the person's ability and efforts (10). Perhaps, students' motivation has a more positive value in learning process compared with students' intelligence. Higher level of motivation leads to permanent learning, and lower level of motivation leads to unstable learning (11). Najafi and Foladjang (2008) and Abolghasemi (2011) found a positive relationship between achievement motivation and children's learning (12, 13), meaning that high level of achievement motivation leads to better performance in learning process (12, 13). However, both factors may not be the only factors that predict children's progress during schooling. For example, Borman and Overman (2004), Gersten et al. (1984), and Lubienski (2002) looked at students' academic progress with respect to race, socioeconomic status (SES), entry IQ, and minority factors. Their results were quite interesting. They found that some of these factors could decrease or increase the students' achievement (14-16). However, their results cannot be extended to the Persian community. In those studies, they looked at black and white students and the minority of students from low SES, in contrast to white students from low SES, and this type of categorization is not suitable for Persian students. School grades, types of courses, and the teaching process are different for the Persian children. Therefore, it is worth to look at the Persian students' academic progress with and without LDs in the Persian culture. City of Semnan, because of its geographical situation (Northeast of Iran), has an almost even culture and most people talk only Persian, which is in agreement with the official language of education, making this place a good spot to run studies in the Persian language.

Professionals need to examine their current knowledge about these variables to make proper changes in any related areas. What the students with LDs receive now has been built up upon the past studies, researchers may repeat similar studies to evaluate the outcomes, spot their failures, and upgrade the interventional plans to build a secure future for these students. Evaluation of these variables may indirectly show the effects of individualized educational program (IEP) from Semnan center of special learning disorders. Any information in this field can be a great help to teachers and professionals to prepare more effective curriculum and innovative instructions to help these children to manage their problems in learning. Due to the high value of the implicit factors in children's future progress, especially in education, the first aim of this study was to evaluate self-efficacy, achievement motivation, and academic progress of the students with LDs and compare their scores with those of typically developing children. To keep healthy levels of self-efficacy and achievement motivation, professionals should look for any possible interaction between these variables and environmental factors.

Therefore, the present study aimed at checking the possible relationships between parental education and occupation and these 3 variables. Professionals should provide interventional and educational programs that consider the students with LD as a whole and look at the influential environmental factors as an essential part of their decision-making process. This study can be a starting point to identify these influential factors.

2. Methods

This study had a cross sectional design, and the participants were selected by convenience sampling method.

2.1. Participants

An invitation letter and a consent form were sent to those students who received educational assistance from Semnan center of special learning disorders; 34 consent forms were signed and returned by children's caregivers. The subject group included 34 primary school children with typical IQ, without any other type of disorder or disability (eg, physical, visual, or auditory), but with disability in one of the following areas: reading, writing, or mathematics.

The controls were 32 primary school students matched on age, sex, and grade. The demographic characteristics (gender, age, and school grade) of both groups are demonstrated in Table 1. All participants, with and without LDs, had a complete evaluation of health (visual, auditory, and physical) by an expert staff. Students with LDs underwent a second IQ assessment by a psychologist to confirm the LDs diagnosis.

2.2. Tools and Procedure

The examiner recorded some of the demographic information such as parents' occupation, parental education, and the age of parents. This information was recorded anonymously on a sheet highlighted by a code for each participant. To evaluate different levels of self-efficacy, the examiner administered the self-efficacy scale (Sherer et al. 1982). This questionnaire has 17 items and its scoring is based on a 5-choice Likert scale (from strongly agree to strongly disagree). The maximum score in this questionnaire is 85. If a student scored less than 44, s/he showed low levels of self-efficacy and a student with a score of higher than 69, showed high levels of self-efficacy (6, 17). The validity of the questionnaire for Persian people was 0.6, which was very beneficial. The reliability of this tool for Persian people was 0.80, which was good (6, 12, 18).

The items of the Herman's questionnaire measure of achievement motivation are 29 unfinished sentences. Each

Table 1. The Characteristics of Participants With and Without learning disabilities (LDs)

Groups	Demographic Factors Gender	Grade				Total
		Two	Three	Four	Five	
Children with LDs	Female	5	2	0	0	7
	Male	14	9	3	1	27
	Total	19	11	3	1	34
Matched Controls	Female	4	3	0	0	7
	Male	15	6	3	1	25
	Total	19	9	3	1	32

sentence is followed by 4 choices. Participants should select one of the 4 choices. Each choice has a score. Thus, depending on children's choice, the total score will be between 29 and 116. The higher scores show the higher achievement motivation and vice versa (19). The Validity of this instrument is between 0.3 and 0.5, placing the interpretation between "likely to be useful" and "very beneficial". The reliability of this questionnaire for Persian people was 0.8, which can be interpreted as good (18, 20, 21).

The criterion for academic progress for all participants (with and without LDs) was the students' school records. The school record is a descriptive sheet, which describes student's functions in 4 levels of satisfaction: acceptable, expected, good, and very good.

The examiner used the statistical package for the social sciences (SPSS) -20. Kolmogorov-Smirnov test was applied to assess the normality of data. Nonparametric Mann Whitney test was used to compare the 2 groups, while Spearman's Rank correlations test was used to evaluate the correlation between the variables.

3. Results

The normality of data (for age, self-efficacy, and achievement motivation) was assessed using Kolmogorov-Smirnov ($P = 0.000$). Thus, the data were not distributed normally and the nonparametric tests were applied. The nonparametric test was used to measure academic progress, as an ordinal variable.

There was no significant differences between the 2 groups based on age ($P = 0.424$) as expected. The Mann-Whitney U test was applied to analyze differences between the scores of the 2 groups of children in self-efficacy, achievement motivation, and academic progress. Children with LDs scored significantly lower than matched controls in all the 3 variables ($P = 0.000$) (Table 2).

Spearman's rank correlations were applied to find any possible relations between different variables in the

Table 2. Comparison of Children With and Without LDs by Mann-Whitney U Test^a

Variables	Children With LDs	Matched Controls	P Value
Self-efficacy	62.06 (7.22)	68.69 (4.41)	0.000
Achievement Motivation	81.94 (7.78)	93.72 (5.54)	0.000
Academic Progress	2.95 (0.62)	3.79 (0.27)	0.000

^aValues are expressed as mean (SD); LDs, learning disabilities.

present study. There was a moderate positive correlation between academic progress and self-efficacy ($r_s = 0.441$, $P = 0.000$, $N = 66$). Moreover, a strong positive correlation was found between academic progress and achievement motivation ($r_s = 0.645$, $P = 0.000$, $N = 66$). Finally, there was a positive moderate correlation between self-efficacy and achievement motivation ($r_s = 0.538$, $P = 0.000$, $N = 66$). These results are displayed in Table 3.

Table 3. The Relationship Between Academic Progress and Intrinsic Factors

Variable		Self-Efficacy	Achievement Motivation
Academic Progress	Correlation Coefficient	0.538	0.441
	Sig. (2-tailed)	0.000 ^a	0.000 ^a

^aCorrelation is significant at 0.01.

There are some environmental factors, in addition to the intrinsic factors, that might have affected both children's academic progress and these implicit factors. These factors including parental education and parental occupation are out of the children's control, but they should be considered for study and intervention. As displayed in Table 4, weak positive correlations were found between achievement motivation and parental education ($r_s = 0.32$, $P = 0.005$, $N = 66$), and achievement motivation and fa-

ther's occupation ($r_s = 0.285$, $P = 0.02$, $N = 66$). Similar findings could be found for academic progress and parental education and father's occupation. However, correlation was detected between self-efficacy and any of these environmental factors. It seemed mothers' occupation (being a homemaker, or holding official jobs, self-employment, or non-governmental jobs) did not have any relation with the 3 main factors in the present study.

4. Discussion

Children with LDs scored significantly lower than matched controls in self-efficacy measure. This finding was in line with the works of Alaei et al. (2012), Sherer and Adams (1983), Maddux et al. (1982), Komarraju and Nadler (2013), Narimani and Vahidi (2014), Hampton and Mason (2003), and Pintrich et al. (1994) (9, 20-25). These researchers found that children with LDs had low expectations from themselves and had lower levels of self-efficacy beliefs. This finding should be considered for any consulting for children with LDs. Moreover, students with high self-efficacy have higher goals for themselves, seek different and alternative solutions, show greater flexibility, take up difficult and challengeable tasks, and try to develop their skills and never avoid difficult tasks. Students with high levels of self-efficacy quickly repair their failures and try to achieve their goals. These students believe that they failed because they did not have enough knowledge or they did not make enough efforts (22).

The present study, in concert with the previous studies such as Alaei et al. (2012), showed that children with LDs had lower level of achievement motivation than their matched controls (9). The present study did not investigate any causal relation between achievement motivation and other factors. However, other studies have shown that achievement motivation as an innate factor has a relation with other factors and it cannot be certainly said that children with LDs have lower levels of achievement motivation because of their disabilities (26). For example, Jungert and Andersson (2013) found that students with different styles of learning had significantly different levels of achievement motivation (27). Even Mohammadzadeh et al. (2009) worked on different educational procedures for achievement motivation (28).

In simple words, highly motivated students show more efforts and more attention during learning process compared with those students with lower level of motivation (11). Stik also showed that those with high level of achievement motivation are successful in school tasks (11). Students who have lower levels of self-efficacy and achievement motivation believe they are not able to succeed in

school tasks. These beliefs reduce their abilities in doing more purposeful activities and reduce their efforts towards success. Consequently, their failures in school tasks will be repeated and they will be in a mental condition such as depression (13). In contrast, when students are frequently successful in their school tasks, their desire to reach their goals will increase (11). For students with LDs, the number of times that they experience positive results in their school tasks is fewer than their peers, especially in the first year of school, so their achievement motivation decreases; this is a kind of interaction between achievement motivation and academic progress (9).

The moderate to strong correlations between academic progress with the other 2 variables (self-efficacy and achievement motivation) support the indirect effects of children's self-perception on their academic progress. Yusuf (2011) found a direct relationship between self-efficacy and academic progress and an indirect relationship between achievement motivation and academic progress (5). They explained that students who are highly motivated and have high levels of self-efficacy are interested to participate in classroom activities, are enthusiastic to do their homework, and can manage their time better. Such students have a close relationship with their teachers, try to satisfy their teachers, and being successful is very important to them (11).

In the present study, children who had parents with higher education and a father with official jobs had higher scores for achievement motivation and better academic progress results. This finding is in line with that of previous studies. It has been shown that the levels of parental education can affect children's academic progress or academic failure in different forms (29); and this may be explained by environmental factors such as parental education and their occupation. Educated parents may provide for their children. Highly educated parents usually are in better conditions and this will in turn affect their children's attitudes about their parents, increase children's security and safety, and promote children's self-confidence (30). These positive effects will stimulate other positive aspects of children's personality as well. Being able to communicate better, finding better connections with people and the environment, and finally developing skills are some of these positive outcomes (31). Although parental education is not the only factor that predicts children's progress, education can change the outcomes. On the other hand, children who have parents with lower levels of education may have less opportunity in cultivating their talents (32, 33). However, education alone cannot be considered a factor for children's progress. However, research has shown that parents' education is directly related to children's education progress (34).

Table 4. The Relationship Between Intrinsic Factors and Environmental Factors of learning disabilities

Variable		Father's Job	Mother's Job	Father's Education	Mother's Education
Academic Progress	Correlation Coefficient	0.323	0.069	0.392	0.399
	Sig. (2-tailed)	0.008*	0.538	0.001*	0.001*
Self-Efficacy	Correlation Coefficient	0.065	0.025	0.140	0.235
	Sig. (2-tailed)	0.606	0.844	0.263	0.057
Achievement Motivation	Correlation Coefficient	0.285	0.038	0.321	0.342
	Sig. (2-tailed)	0.020*	0.762	0.009*	0.005*

The present study had several limitations. First, all the students with LDs were identified by the teachers or school principals, and not by the researcher. Thus, the researcher did not examine the students with any standardized tests to confirm the diagnosis. This might have influenced the diagnosis of children with LDs, and this was certainly a limitation to the present research. Second, the students have not met the researcher prior to the study, so meeting her in one session and answering questions in the same session might have affected students' responses. Thus, the results should be interpreted with caution. Third, the present study failed to evaluate the relationship between different types of LDs and self-efficacy, academic progress and achievement motivation. Therefore, future studies with larger sample groups may explore such relationships and change the results of the present study.

4.1. Conclusions

In summary, the present study revealed lower levels of self-efficacy, achievement motivation, and academic progress in students with LDs compared with typically developing students. However, the relationship among different variables in this study (intrinsic factors, environmental factors, and academic progress) made it difficult to reach a simple and linear interpretation. It seems that Individualized Program, which only emphasized children's education, did not cover these children's needs. Thus, conducting future studies is necessary to evaluate the effects of interventional and educational plans for students with LDs in Iran.

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