Relationship between Perceived Teacher Expectations and Cognitive Engagement: Mediating Role of Academic Self-Efficacy in Students with Learning Disorders

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Article Info	ABSTRACT
	Objective : The purpose of this study was to investigate the association between perceived teacher expectations and cognitive engagement, with a focus on the mediating role of academic self-efficacy among students with learning disorders. **Methods**: The research design employed in this study was descriptive and correlational. The target population consisted of all fourth, fifth, and sixth grade students with learning disorders in Birjand city, Iran, in the year 2023, totaling 140 individuals. Utilizing Morgan's table, a random sample of 103 students was selected. The research instruments used in this study included the Teacher's perceived expectations questionnaire (Bulach, 2002), Academic Engagement Questionnaire (Zerang, 2012) and Academic Self-efficacy Scale (Midgley et al. (2000) . Structural equation modeling was employed to analyze the proposed model. **Results**: The findings of this study indicated that the proposed model exhibited favorable fit indices. Specifically, the analyzed model revealed a significant and direct relationship between perceived teacher expectations and both cognitive engagement and academic self-efficacy among students with learning disabilities (P<0.01). Additionally, a significant and direct relationship was observed between academic self-efficacy and cognitive engagement among these students (P<0.01). Moreover, academic self-efficacy was found to play a significant mediating role in the association between perceived teacher expectations and cognitive engagement among students with learning disabilities (P<0.01). **Conclusions**: Overall, the results of this study provide support for the influence of teacher expectations on cognitive engagement and academic achievement among students with learning disorders, while also affirming the mediating role of academic self-efficacy.

Introduction

In recent years, the issue of learning disorders has garnered the attention of specialists and education experts. The term learning disability pertains to a form of cognitive deficiency in one or more mental processes within the realm of comprehending spoken language, writing, listening, thinking, reading and writing, spelling, and mathematical calculations (Rasouli and Hosseininik, 2017). One of the factors that exhibits a high occurrence in students with learning disabilities is the diminished level of academic engagement. Academic engagement serves as one of the most significant indicators of educational quality (Van Youden et al., 2014). Academic involvement encompasses the quality of perseverance that students dedicate to targeted educational activities that directly contribute to the attainment of desired outcomes (Dehghani, et al., 2017). As stated by Odas Willems (2001), academic engagement entails the student's participation in both educational and non-educational activities, while also identifying with educational objectives. Newman et al. (2010) also define academic engagement as the students' involvement in educational tasks and their psychological investment and effort to learn, comprehend, or acquire the knowledge and skills they aim to develop (Afrooz et al., 2018). According to Lenin-Brink and Pintrich (2003), academic engagement comprises three dimensions: behavioral, cognitive, and motivational. Cognitive engagement refers to the strategies individuals employ to learn and retain course material. Researchers have identified numerous strategies, one group of which is known as cognitive strategies, which include repetition or mental review, elaboration or expanding meaning, and organization, among others (Seif, 2010). Cognitive engagement encompasses the types of processing methods students utilize to learn and encompasses two types: cognitive and metacognitive strategies. Cognitive strategies encompass a range of techniques through which new information is linked and integrated with previously acquired knowledge and stored in long-term memory. It encompasses three categories: review, elaboration, and organization. Metacognitive strategies exemplify cognition that oversees the cognitive processes of actions, making individuals self-aware of how they learn or think (Pirani et al., 2017).

It appears that one of the factors that can directly impact students' cognitive engagement is the perceived expectations of the teacher. Given that students with learning disorders are considered vulnerable and delicate, teachers should provide support and be a protective shield for such students. Teachers are widely recognized as the most influential social factor that affects students'

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academic motivation, which in turn influences their engagement or disengagement from educational activities. If students perceive a lack of support from their teachers and a dearth of compassion in their interactions, they will feel less connected to their teachers, leading to a decrease in their sense of belonging and consequently reduced academic engagement among students with learning disabilities (Duffin et al., 2012). Helker and Vasnitza (2014) conducted a study in which they reached the conclusion that students' responsibility is influenced by the context of the class and the expectations of the teacher. This responsibility, in turn, leads to increased academic engagement and motivation among students. In another study, Ozaei et al. (2021) demonstrated a positive correlation between the perception of the learning environment and both academic engagement and performance of students. Similarly, Moltafet et al. (2018) concluded in their research that the perception of the classroom directly impacts academic involvement and its various components. Goa et al. (2023) also established a significant relationship between perceived teacher support and academic involvement of students. It is evident from the research that a strong teacher-student relationship plays a crucial role in fostering student involvement in the educational process, thereby generating interest and enhancing academic performance (Kar, 2005). Furthermore, students' perception of teacher expectations is a noteworthy factor influencing the classroom atmosphere (Gholami & Hossein Chari, 2010). The expectations set by the teacher can elicit different behaviors in students and shape their beliefs about their own abilities, which subsequently affects their performance. High expectations from teachers can lead to increased attention and opportunities for students to showcase their abilities. This, in turn, fosters a sense of self-satisfaction and the development of a positive self-concept, ultimately contributing to growth and success. Conversely, the teacher's expectations and motivation also influence the use of various methods to achieve students' goals and success (Heidari et al., 2022). The teacher's expectations manifest in different ways, including social and emotional conditions such as smiling, nodding, eye contact, and friendly and supportive behaviors, which are often exhibited towards students with high expectations and result in better behavior and warmer interactions. Second, there is a wide range of verbal behavior that emphasizes situations that involve learning new and complex issues. Teachers guide smarter students to learn more complex and new issues. The third is verbal output, which includes the number and length of scientific communication. Teachers have

more communication with students who have better expectations from them, and if a smart student cannot answer a question, the teacher repeats the question or guides. Finally, teacher feedback is such that teachers pay more attention to hardworking and smarter students and criticize weaker students (Helker and Wasnitza, 2014). The teacher's expectations are his conscious or unconscious evaluation of students' abilities. On the one hand, this evaluation is accompanied by prediction by students and the reaction of the environment that helps people to perform the behavior that the teacher considers correct. The conducted studies show that the teacher's expectations are not based only on the level of learning, intelligence and academic abilities, and many cases including; The race, appearance and socio-economic status of the student also determines the teacher's expectation, and with this teacher's behavior, a large amount of the student's mental and academic capacity is destroyed (Islami and Amir Ahmadi Ange, 2016).

Gholami and Hossein Chari (2013) also arrived at the conclusion that perceived teacher expectations serve as a direct predictor of students' academic self-efficacy. Narimani et al. (2013) reached the conclusion that the perception of teacher support exhibits a direct and significant correlation with the academic self-efficacy of students with learning disabilities, and the perception of teacher support has the ability to predict the academic self-efficacy of students with learning disabilities. Bandura (1977) defines self-efficacy as the personal belief's individuals hold regarding their capacity to make decisions about the levels of performance they choose, which in turn guide and shape the events that impact a person's life (Shahabinejad and Bozorgzadeh, 2014). According to Bandura (1977), academic self-efficacy refers to a student's perception and belief in their academic capabilities, encompassing learning, problem solving, and achieving academic progress. Self-efficacy beliefs encompass beliefs such as the ability to engage in studying, conduct research activities, raise questions in the classroom, effectively communicate with teachers, foster friendly relationships with peers, attain good grades, participate in class discussions, and more, all of which an individual believes they can accomplish under specific conditions and educational situations. Familiarity with the factors that influence academic self-efficacy, on the one hand, aids in preventing the consequences of academic failure and fostering a conducive learning environment, while on the other hand, it assists in adopting appropriate methods and prioritizing practical educational approaches (Poursaid & Khormaei, 2018). Self-efficacy constitutes a cognitive process that relates to learning motivation (Raviola et al., 2020) and exerts an influence

on students' cognition, emotions, motivation, and behavior. Students with low self-efficacy may not even prepare for exams at school because they believe that no matter how hard they work, they will not achieve satisfactory results. Conversely, students with high self-efficacy demonstrate greater promise and are more proficient and successful in completing homework assignments (Jahandideh, 2015). Lindsey (2017) argues that self-efficacy is defined as an individual's perception of their ability to learn or perform behaviors at specific levels. An individual's assessment of their own abilities plays a crucial role in academic success and thus can act as a determinant of academic engagement. Hence, self-efficacy serves as a motivational framework for individuals, playing a crucial role in promoting academic engagement and facilitating student learning. Initially, it stems from the self-efficacy of learning and eventually manifests as conflict within students (Siondani, 2019). Grotan et al. (2019) conducted research that demonstrated the mediating role of academic engagement between academic self-efficacy and academic progress and dropout. Haririzadeh et al. (2023) concluded that self-efficacy indirectly influences academic engagement and the cognitive, behavioral, and motivational aspects of student engagement. Davoudi (2013) also revealed that academic self-efficacy directly impacts students' emotional involvement, cognitive involvement, and behavioral involvement. Researchers have recently focused on learning disorders as a significant issue.

The latest edition of the diagnostic guide for mental disorders published by the American Psychiatric Association has renamed learning disorders as specific learning disorders, with each type being categorized as a reading disorder, a writing disorder, a math disorder, or an independent and distinct disorder. It is now considered a determinant in specific learning disorders (Waber et al., 2019). In Iran, the prevalence of students with learning disabilities in elementary school is 58.4%. The number of students with learning disorders gradually increases between the ages of 6 and 11, with the majority falling between the ages of 10 and 15, and more prevalent among male students (Mehghani & Janaabadi, 2018). Children with learning disabilities possess intelligence close to or above average. They exhibit enigmatic and contradictory characteristics and often face numerous challenges in school. Learning modifications are necessary for these children as they struggle to grasp simple material and require additional support to succeed academically (Graham, 2017). Learning disorders primarily affect preschool-age children, with elementary school children

being the most affected group. When a child appears to have the potential to learn, has the opportunity to do so in a school setting, and yet fails to acquire knowledge despite adequate education, they may be classified as having a learning disability in the areas of reading, writing, speaking, or mathematics (Hasani, 2023). Given that cognitive engagement, academic self-efficacy, and perceived teacher expectations influence student learning, it is crucial to identify the antecedents and consequences of these factors. Furthermore, due to the limited understanding of the processes and predictions related to cognitive involvement, particularly among students with learning disabilities, and the lack of research on the mediating role of academic self-efficacy between perceived teacher expectations and cognitive conflict in students with learning disorders in Iran, there exists a research gap in this field.

Materials and Methods

This study is characterized by its descriptive nature, specifically of the correlational type, and it is applied in terms of its purpose. The targeted statistical population for this research consists of all students in the fourth, fifth, and sixth grades in Birjand city in 2023 who have learning disabilities. According to the announcement made by the General Department of Education of Birjand city, there are 140 students with learning disabilities in total, with an equal distribution of 70 girls and 70 boys. In line with the Morgan and Karjesi table, the statistical sample for this study was determined to be 103 students with learning disabilities. Stratified random sampling was employed as the sampling method, taking into account the students' gender. It is important to highlight that prior to data collection, informed consent was obtained from all participants. In this research, three questionnaires were used to collect statistical data, which are explained below.

A) **Perceived Teacher Expectations Questionnaire:** To measure the perceived teacher's expectations, the scale of expectations related to the scale of school culture and atmosphere called "Teaching Growth Survey" made by Bulach (2002) was used. This scale has 12 items and has three components: teacher support and guidance, teacher uncertainty, and teacher control and direction, whose answers are on a continuum from completely agree (4) to completely disagree (1). How to score questions 5-6-7-8-9-10-11-12 are reversed. This scale is such that from the point of view of different people, the expectation of students' progress can be measured. In this research, the questionnaire was answered by the students. In this scale, the minimum score is 12 and the

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maximum score is 48. The validity of this scale has been verified and reported by Khoshbakht (2007). The content validity of this questionnaire has been approved by the professors and lecturers of educational psychology of Shiraz University. The validity of the instruments of this scale has been calculated by correlating the score of each item with the total score. took The reliability of this scale was calculated by Bulach (2002) using Cronbach's alpha of 0.70. In Iran, Cronbach's alpha of this scale was estimated by Latifian and Khoshbakht (2008) to be favorable (equal to 0.79). Also, the validity of this questionnaire was reported in Gholami's research (2013) through Cronbach's alpha coefficient of 0.73.

B) **Cognitive Engagement Questionnaire:** The academic engagement questionnaire was designed by Zerang (2013) based on theoretical foundations (the theoretical model of Pinterich in order to measure academic engagement. This scale of 38 questions has three dimensions (cognitive, motivational and behavioral) whose cognitive dimension is measured with 19 items, motivational dimension is measured with 10 items and behavioral dimension is measured with 9 items. The research used only the cognitive engagement scale. The scoring method in this questionnaire is based on the Likert scale, which is assigned a score of 5 for always correct answers, sometimes correct scores of 4, sometimes correct and sometimes incorrect scores of 3, sometimes incorrect scores of 4, and always incorrect scores of 1. In Zerang's research (2011), the validity of the questionnaire was obtained by Cronbach's alpha test, in the preliminary stage with 38 questions, and the internal consistency of the subscales of cognitive involvement was estimated at 0.84, behavioral involvement at 0.76, and motivational involvement at 0.86. became. Also, the validity of the questionnaire in the final stage was 0.90 with 38 questions, and the internal consistency of the subscales of cognitive involvement was 0.83, behavioral involvement was 0.73, and motivational involvement was 0.80, which are acceptable. . Therefore, the academic engagement questionnaire and its subscales have desirable and acceptable internal consistency. In the research of Ghadampour et al. (2016), Cronbach's alpha coefficient was 0.91 for the whole questionnaire and 0.84, 0.78 and 0.77 for cognitive, motivational and behavioral conflicts, respectively. In the study of Samra and Khezri Moghadam (2014), the validity of the questionnaire was estimated by Cronbach's alpha coefficient as 0.77 for the whole questionnaire and for cognitive, motivational and behavioral conflicts as 0.74, 0.86 and 0.79 respectively.

C) Academic self-efficacy questionnaire: In order to measure academic self-efficacy, the standard academic self-efficacy questionnaire of Midgley et al. (2000) was used. This scale has 5 items with a five-point Likert scale (completely agree to completely disagree) where each item has a value between 1 and 5. With questions like: (If I try hard enough, I can do my homework perfectly in class). It measures academic self-efficacy. The minimum score of this questionnaire is 5 and the maximum score is 25. In the research of Midgley et al. (2000), the reliability of the questionnaire was obtained using Cronbach's alpha of 0.91. In the research of Arin Far et al. (2018), the reliability level was obtained using Cronbach's alpha for the academic self-efficacy scale of 0.86. In Sabzian's research (2023), the validity of the questionnaire was estimated through Cronbach's alpha coefficient of 0.74. In the research of Haririzadeh et al. (2023), the validity of the questionnaire was obtained through Cronbach's alpha coefficient of 0.88.

Results

Descriptive findings related to the mean and standard deviation of the variables of perceived teacher expectations, academic self-efficacy and cognitive engagement and their related components are shown in the table 1.

Table 1. Mean and standard deviation of perceived teacher expectations, academic self-efficacy and cognitive engagement

Variable	Mean	SD	Min.	Max.
Teacher support and guidance	14.61	1.43	10	16
Uncertainty of the teacher	6.16	2.16	4	12
Control and direction of the teacher	6.85	1.98	4	12
Academic self-efficacy	12.67	2.22	7	18
Cognitive engagement	42.74	5.58	31	58

The results indicated that the correlation coefficient between the teacher's support and guidance component with cognitive engagement is equal to (0.803) and there is a positive and significant relationship at the 99% confidence level (P<0.01). Also, the results show that the correlation coefficient between the teacher's uncertainty component with cognitive involvement is equal to (-0.499) and the correlation coefficient between the teacher's control and orientation component with cognitive involvement is equal to (-0.569), which is at the level There is a 99% certainty of a negative and significant relationship (P<0.01). The results indicated that the correlation coefficient

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between the teacher's support and guidance component with academic self-efficacy is equal to (0.600) and there is a positive and significant relationship at the 99% confidence level (P<0.01). Also, the results show that the correlation coefficient between the teacher's uncertainty component with academic self-efficacy is equal to (-0.747) and the correlation coefficient between the teacher's control and orientation component with academic self-efficacy is equal to (-0.751), which is at the level There is a 99% certainty of a negative and significant relationship (P<0.01). The results showed that the correlation coefficient between academic self-efficacy and cognitive engagement is equal to (0.703) and there is a positive and significant relationship at the 99% confidence level (p < 0.01).

The general indices of the goodness-of-fit test in the path analysis indicate the general fit of the proposed model. If the two-part chi-index on the numerical degree of freedom is smaller than 3, it is favorable. Also, when the root mean square error of approximation (RMSEA) is less than 0.1, the analysis and model report an acceptable fit, and any size, GFI, AGFI, NFI, CFI and NNFI indices are closer to one. They indicate a better fit of the model. According to the indices obtained in the above table, the chi-square index with 2.41 degree of freedom has been obtained and the values of GFI, AGFI, NF, CFI and NNFI fit indices are close to one, which indicates that These indicators have achieved the necessary standards, so it can be said that the model has a good fit and is confirmed.

Table 2. Estimation of the direct effect of perceived teacher expectations with cognitive engagement

Predictor	Criterion	Path coefficient		T value		Result
		Value	P	Value	P	
Teacher support and guidance	Cognitive engagement	0.22	0.001	2.38	0.001	Confirmed
Uncertainty of the teacher	Cognitive engagement	-0.28	0.001	-2.71	0.001	Confirmed
Control and direction of the teacher	Cognitive engagement	-0.25	0.001	-2.17	0.001	Confirmed

In the examination of the path coefficient of perceived teacher expectations with cognitive engagement, it shows that the path coefficient of the teacher's support and guidance variable with cognitive involvement is equal to (0.23) with the t-value obtained from the investigated path (2.38). The probability of 99% is significant (P<0.01). It can be concluded that there is a direct and

significant relationship between teacher support and guidance with cognitive engagement in students with learning disabilities. Also, the results show that the path coefficient of teacher's uncertainty variable with cognitive engagement is equal to (-0.28) with the t-value obtained from the investigated path (-2.71), with a probability of 99% significance (01 /0P<). Therefore, it can be concluded that there is a direct and significant relationship between teacher's uncertainty and cognitive involvement in students with learning disabilities. The results show that the path coefficient of the teacher's control and orientation variable with cognitive engagement is equal to (-0.25) with the t-value obtained from the investigated path (-2.17), with a probability of 99% significance. (P<0.01). Therefore, it can be concluded that there is a direct and significant relationship between teacher's control and orientation and cognitive involvement in students with learning disabilities.

Table 3. Estimating the direct effect of perceived teacher expectations with academic self-efficacy

Predictor	Criterion	Path coefficient		T value		Result
		Value	P	Value	P	
Teacher support and guidance	Academic Self-efficacy	0.21	0.001	2.92	0.001	Confirmed
Uncertainty of the teacher	Academic Self-efficacy	-0.25	0.001	-3.82	0.001	Confirmed
Control and direction of the teacher	Academic Self-efficacy	-0.52	0.001	-7.20	0.001	Confirmed

The results of examining the path coefficient of perceived teacher expectations with academic self-efficacy show that the path coefficient of the teacher's support and guidance variable with academic self-efficacy is equal to (0.21) with the t-value obtained from the investigated path (2.92). It is 99% significant (P<0.01). Therefore, it can be concluded that there is a direct and significant relationship between teacher's support and guidance and academic self-efficacy in students with learning disabilities. Also, the results show that the variable path coefficient of teacher uncertainty with academic self-efficacy is equal to (-0.25) with the t-value obtained from the investigated path (-3.83), with a probability of 99% significant (01 /0P<). It can be concluded that there is a direct and significant relationship between teacher uncertainty and academic self-efficacy in students with learning disabilities. The results also show that the coefficient of the variable path of teacher control and orientation with academic self-efficacy is equal to (-0.52) with the t-value obtained from the investigated path (-7.20), with a probability of 99% significance. be

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(P < 0.01). Therefore, it can be concluded that there is a direct and meaningful relationship between teacher's control and guidance and academic self-efficacy in students with learning disabilities.

Table 4. Estimation of the direct effect of academic self-efficacy on cognitive engagement

Predictor	Criterion	Path coefficient		T value		Result
		Value	P	Value	P	
Academic Self-efficacy	cognitive engagement	0.40	0.001	2.74	0.001	Confirmed

The findings in examining the path coefficient of academic self-efficacy with cognitive engagement show that the variable path coefficient of academic self-efficacy with cognitive engagement is equal to (0.40) with the t-value obtained from the investigated path (2.74), with a probability of 99 The percentage is significant (P<0.01). Therefore, it can be concluded that there is a direct and significant relationship between academic self-efficacy and cognitive involvement in students with learning disabilities.

The results of indirect effects indicated that teacher support and guidance with cognitive conflict through the mediating role of academic self-efficacy is equal to the product of the direct effect of teacher support and guidance with cognitive conflict and also the direct effect of academic self-efficacy with cognitive conflict, which has been calculated as 0.092. According to the t-values obtained from the examined paths, with probability (p -value) which is less than 0.05, so the indirect effect is statistically significant. Therefore, it can be concluded that there is an indirect and significant relationship between the teacher's support and guidance with cognitive involvement through the mediating role of academic self-efficacy in students with learning disabilities.

Also, the results show that the indirect effect of teacher uncertainty with cognitive conflict through the mediating role of academic self-efficacy is equal to the product of the direct effect of teacher uncertainty with cognitive conflict and the direct effect of academic self-efficacy with cognitive conflict, which is calculated as 0.112. According to the t-values obtained from the examined paths, with a probability (p-value) that is smaller than 0.05, therefore, the indirect effect is statistically significant. Therefore, it can be concluded that there is an indirect and significant relationship between teacher uncertainty and cognitive involvement through the mediating role of academic self-efficacy in students with learning disabilities. The results indicate that the indirect effect of

the teacher's control and orientation with cognitive conflict through the mediating role of academic self-efficacy is equal to the product of the direct effect of the teacher's control and orientation with cognitive conflict and also the direct effect of academic self-efficacy with cognitive conflict, which is calculated as 0.10. According to the t-value obtained from the examined paths, with the probability (p-value) which is smaller than 0.05, therefore, the indirect effect is statistically significant. Therefore, it can be concluded that there is a relationship between the teacher's control and orientation with cognitive engagement through academic self-efficacy in students with learning disorders has an indirect and significant relationship.

Discussion

This research was conducted with the aim of determining the relationship between perceived teacher expectations and cognitive engagement through the mediating role of academic self-efficacy in students with learning disabilities. According to the first question, it can be concluded that there is a direct and meaningful relationship between perceived teacher expectations and cognitive involvement in students with learning disorders. The findings are consistent with a number of past studies (Megan et al., 2023; Goa et al., 2023; Wei et al., 2020); Shokohi Morozeh, 2021). Learning has a positive and significant relationship with academic engagement and academic performance of students. Ramezani et al. (2017) concluded that perceived social support from the teacher has a direct, positive and significant effect on students' academic engagement and academic self-regulation. Moltafet et al.(2018) showed in research that classroom perception was directly and meaningfully related to academic engagement and its components. Goa et al. (2023) also showed that there is a positive and significant relationship between perceived teacher support and students' academic engagement. Therefore, it can be explained that the teacher is considered as a pioneer in the implementation of educational programs and is in constant contact with the students, and his behaviors and communication with the students and with the students' perceived expectations of the teacher are important. It is amazing in creating emotions and creating cognitive and academic conflict in students, especially students with learning disabilities, which teachers can by increasing support and guidance and reducing uncertainty and controlling and directing the amount of cognitive and academic conflict of students with learning disabilities. Increase learning disorders.

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According to the results obtained for the second question, it was concluded that there is a direct and significant relationship between perceived teacher expectations and academic self-efficacy in students with learning disabilities. The results of this study align with several previous investigations, which have yielded similar outcomes and conclusions (Ren et al., 2022; Eslami & Amirahmadi, 2016; Gholami & Hossein-Chari, 2013). In research, Eslami and Amir Ahmadi Ange (2016) showed that there is a direct and meaningful relationship between teacher's expectations and academic self-efficacy and academic progress of students. In their study, Gholami and Hossein-Chari (2013) showed that the dimensions of teacher-student interaction and perceived teacher expectations were direct predictors of academic self-efficacy in students. Narimani et al. (2012) concluded that the perception of teacher support has a significant relationship with the academic self-efficacy of students with learning disabilities, and the perception of teacher support could predict the academic self-efficacy of students with learning disabilities. Therefore, it can be explained that by increasing the support and guidance of teachers and reducing the control and direction of students by the teacher and creating a sense of trust and confidence in students with learning disabilities, their academic self-efficacy can be increased.

According to the third question, it is possible concluded that there is a direct and significant relationship between academic self-efficacy and cognitive engagement in students with learning disorders. These results are in agreement with the findings past studies (Haririzadeh et al., 2023; Grotan et al., 2019; Chang & Chenchian, 2015). In research, Grotan et al. (2019) showed that academic engagement was able to play a mediating role between academic self-efficacy, academic progress and dropping out of school. Also, there was a direct and significant relationship between academic self-efficacy and academic involvement. Haririzadeh et al.(2023) stated in their study that self-efficacy has a positive indirect effect on academic engagement and the components of cognitive, behavioral and motivational engagement of students. Askari et al. (2018) also showed that there is a positive relationship between academic engagement with academic self-efficacy and the components of the goals of proficiency and approach to academic performance.

Davoudi (2013) stated in his review that academic self-efficacy has an indirect effect on academic progress in addition to the direct effect, through the mediating variables of emotional engagement, cognitive engagement and behavioral engagement. Chang and Chenchian (2015) stated in their

review that there is a positive and significant relationship between academic self-efficacy and academic engagement. In their study, Momeni and Radmehr (2017) showed a positive and significant correlation between academic self-efficacy and academic engagement. Therefore, it can be explained that by increasing the level of academic self-efficacy, it is possible to affect the cognitive engagement of students with learning disabilities and thus increase their motivation and effort to learn.

According to the fourth question, it was concluded that there is an indirect and significant relationship between perceived teacher expectations and cognitive engagement through academic self-efficacy in students with learning disabilities. These results are in agreement with the findings of Haririzadeh et al. , Askari et al. (2018), Davoudi (2013), Goa et al. (2023), Jiyuni et al. (2023), Esmailzadeh Ashini et al. (2018), Kamali Baghdadabad (2016). Haririzadeh et al. (2023) came to the conclusion that self-efficacy has a positive indirect effect on academic engagement and the components of cognitive, behavioral and motivational engagement of students. Osaei et al. (1400) showed that academic self-efficacy is a significant mediator between the perception of the learning environment and academic engagement on students' academic performance. Askari et al. (2018) also showed that academic self-efficacy had a mediating and indirect role in the relationship between academic engagement and students' academic performance and progress goals. Davoudi (2013) in his study stated that academic self-efficacy had an indirect and mediating effect on emotional conflict, cognitive conflict and behavioral conflict on students' academic progress. Goa et al. (2023) concluded that autonomous motivation and psychological need satisfaction have a mediating role in perceived teacher support and students' academic engagement. Giuni et al. (2023) stated in their study that the perceived support of teachers has an indirect and significant effect on students' participation and involvement. Esmailzadeh Ashini et al. (2018) showed that academic vitality is indirectly related to academic engagement through academic self-efficacy. Kamali Baghdadabad (2016) Teacher's self-efficacy plays a mediating role between teacher's expectations of performance and students' academic motivation. Therefore, through academic self-efficacy, it is possible to have a positive effect on the perceived teacher's expectations and the cognitive engagement of students with learning disabilities and improve their cognitive engagement.

The results of this research have all the limitations of the questionnaire due to the use of the questionnaire. According to the results of this research, the main role of teachers in teaching and

learning of students with learning disabilities, in-service courses and training workshops for teachers in the field of ways to increase perceived teacher expectations, cognitive engagement and academic self-efficacy in students are recommended. suffering from learning disorders. It is suggested that a codified program for teaching cognitive engagement skills in the form of educational workshops for parents with children suffering from learning disorders should be considered by education and education. It is suggested that educational counselors and psychologists to teach students with learning disabilities how to increase cognitive involvement and academic self-efficacy. In this regard, teaching effective problem solving skills, self-confidence strengthening exercises are among the necessary measures to create and strengthen cognitive engagement and academic self-efficacy.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by ethics committee of University of Sistan and Baluchestan.

Author contributions

MM. HJ and AM contributed to the study conception and design, material preparation, data collection and analysis. The author contributed to the article and approved the submitted version.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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