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How social support predicts academic achievement among secondary students with special needs: the mediating role of self-esteem

Karwan Mustafa Saeed^{1*} , Abas Sharif Ahmed² , Zanyar Maqsud Rahman³ and Niyan Aziz Sleman⁴

Abstract

Background Students are an essential part and parcel of society, and their mental health, academic achievement, and success are the pillar objectives of a successful educational system. Based on this, students need to be well-equipped to overcome academic difficulties and challenges. Social support and self-esteem are known to play a major role in education and nurture students' academic achievement. Despite their important attributions, studies however have not examined the joint effects of social support and the mediating role of self-esteem on academic achievement in the context of Kurdistan Region, Iraq. To this end, using a sample of 200 secondary students with special needs (mean age of 14 years) in the city of Halabja, this study tested a structural equation modeling to examine the effect of social support on academic achievement and the potential mediating role of self-esteem between social support and academic achievement. The students with special needs in our sample completed two validated scales to assess their social support and self-esteem and reported their past year's academic achievement.

Results The participants in this study scored the highest on significant other ($M = 4.46$) and the lowest on friends' support ($M = 3.95$). With regard to self-esteem, the participants reported the mean score of 3.78, indicating a reasonable level of self-esteem. The results of SEM showed that there is a statistically significant difference ($p < 0.05$) regarding the effect of family and friends on students' achievement, while significant other was not found to be statistically significant ($p > 0.05$). Our SEM results also revealed that the effect of family on students' self-esteem was found to be statistically significant ($p < 0.05$), whereas friends and significant other were not statically significant ($p > 0.05$). Also, SEM findings confirmed that the indirect effects of family and friends on academic achievement were statistically significant ($p < 0.05$), but significant other did not have any effect, indicating that self-esteem partially mediated the relationship between social support and academic achievement. Last, our analysis also revealed that self-esteem predicted the students' academic achievement ($p < 0.05$).

Conclusions The findings of the study have practical implications for parents, teachers, policy makers, and educators. The study's implications, limitations, and suggestions for future studies directions are discussed in detail. In so doing, this investigation opens new doors for more future academic contributions in this research area.

Keywords Social support, Self-esteem, Academic achievement, Students with special needs, Kurdistan Region, Iraq, Structural equation modeling

*Correspondence:

Karwan Mustafa Saeed

karwan.saeed@koyauniversity.org

Full list of author information is available at the end of the article

Introduction

How related are social support and self-esteem to special needs students' academic achievement? How different sources of social support (i.e., family, friends, and significant others) and self-esteem are the most dominant factors affecting special needs students' academic achievement? Addressing these questions are of crucial importance since improving the quality of life for students in general, and students with special needs in particular, has been considered a major concern for educators and educational institutions [1]. As defined by Gurung [2], social support is a multidimensional concept, and it refers to the experience of being valued, respected, cared about, and loved by others. Loannou et al. [3] believe that social support is how individuals view family members, friends, and others as available sources in providing social and psychological support during times of need. Tao et al. [4] assert that social support is regarded as a crucially significant factor for students' academic achievement. Other scholars such as Dwyer and Cummings [5] explain that the support received from family, friends, and school staff with acceptance and emotional warmth has been associated with academic achievement. Therefore, students with higher and better social support are expected to outperform in their academic as compared to students with low social support [6–8].

Positive psychology as a research area has stimulated a great interest in the study of social support, self-esteem, and student academic achievement. In doing so, the interrelationship between them has been well-documented in the body of literature. For example, Rueger et al. [7] and Li et al. [1] have concluded that individuals with high levels of social support tend to possess higher self-esteem. Past studies have identified a close connection between social support and academic achievement with the mediating role of self-esteem where higher self-esteem was found to be a predictor of academic achievement. This is simply because individuals with higher self-esteem can bring about positive feelings pertaining to their life in general and academic buoyancy in particular. However, lack of support from social relations may make individuals feel devalued and rejected, leading to negative self-evaluations and resulting in low self-esteem [9]. Rueger et al. [10] also emphasize that individuals may suffer more harmful effects of stress if social support is deficient. This is mainly because social support is regarded as a protective resource that assists people to cope with stress and depression. There is a general consensus that due to their relatively insufficient social experiences, secondary school students in general, and secondary school students with special needs in particular, have lower self-consciousness and psychological strength compared to

adults, making them more vulnerable to psychological complications.

Over the years, several definitions of self-esteem have been formulated. For example, Rosenberg [11] has defined self-esteem as “the positive or negative attitude of a person towards oneself, which is closely associated with the feeling of life satisfaction.” It is crucial to note that specific self-esteem is a feeling of competence in a specific area of life such as academics, work, or social relations [12]. Therefore, students with higher levels of self-esteem might have higher aspirations and goals in life. It is because of this understanding that students' self-esteem can act as a motivator to achieve their academic goals as discussed by Fang [13]. Specifically, students with special needs might require more social support. Therefore, having a greater level of self-esteem is of crucial importance as students with special needs are different in some important dimensions of their human functioning. This is simply because they are constrained in achieving physical, psychological, cognitive, and social goals by speech problems, deafness, blindness, and intellectual disability.

It is generally suggested that social support affects the self, and hence, it leaves impact on individuals. This is because young adults view that social ties may activate their different self-evaluations. For example, social support can act as a strong indicator of an individual's social acceptance and may stimulate positive self-esteem. Students study harder if they believe they can achieve what they want to achieve [14], meaning that self-esteem can play as a motivator in obtaining academic goals [13].

Although social support and self-esteem are different but interrelated concepts, therefore, more recent studies [10] have found that social support affects individuals' perception of their own value and self-worth. Previous research also suggests that social support is expected to improve psychological health through its effect of the recipients' self-worth, sense of belonging, and acceptance by others which are considered as components of higher self-esteem [3]. The literature reviewed in this study shows that self-esteem could affect students' academic achievement. Thus, it could be possible that self-esteem potentially mediate the relationship between social support and academic achievement. However, the potential mediating role of self-esteem has merely been explored, particularly in special needs students in Kurdistan Region. More examinations of this inquiry can therefore have seminal implications to bring about in educational practice.

Social skills are linked to peer social support of students with special needs. The literature [15] has documented the relation between social skills and social support that children's depression can be due to the

low social support they receive and is also connected to their as-yet undeveloped social skills. More specifically, friends, parents, and teachers are the main sources for school-age children's support [16]. This is typically because peer support can enhance special needs children's social skills, motivate them to learn, increase their confidence, and foster their feelings of acceptance and respect. The importance of social support is described in Miller's study as cited in Bond and Castagnare [17], in which it is found that a child with disabilities having a friend or receiving peer support is an effective form of intervention and education that motivates them to learn. This assists them in both social and educational environments [18], notwithstanding the fact that there is a general consensus among previous researchers that social support has a significant effect on academic achievement. On the contrary, Solichin et al. [19] have argued that social support has no effect on learning outcomes. Therefore, the existing knowledge is not yet clear pertaining to how these domains operate in the hope of their proper implications. Social support, self-esteem, and academic achievement are expected to change from one context to another. Due to this and lack of research in this area in the context of Kurdistan Region of Iraq, it seems essential for further exploration to portray a clearer picture of the association among them. In doing so, a proper understanding of the effect between these variables and further exploration may provide a more diagnostic view on these domains in the given context.

As expectancy-value theory claims, self-evaluation of capacity can widely predict students' education achievement and outcomes [13], and according to social capital theory, social networks can be beneficial to individuals in achieving life goals [20]. Likewise, the

biological opinion postulates that students are largely influenced by the social support they are surrounded by [21]. This ecological hypothesis offers us an understanding of the relationship between social support and student outcomes as discussed by Dennis et al. [22] and Rayle and Chung [23]. In this study, we propose that social support affects students' self-esteem, which, in turn, enhances their academic achievement. Based on the significant role of social support and self-esteem in students' academic achievement, it seems important to explore how social support and self-esteem affect students' academic achievement. This is crucially significant to inform future interventions regarding these areas among the students with special needs community. The outcome of this study can also empirically and theoretically develop the relevant literature and research. In consideration of the contributing role of social support and self-esteem on academic achievement, and the current existing gaps, this study was aimed at proposing a model to illustrate the effect of social support on academic achievement and self-esteem and the mediating role of self-esteem on the association between social support and academic achievement (see Fig. 1). As such, this study attempted to address the following research questions:

- 1) What is the effect of social support on secondary special needs students' academic achievement?
- 2) What is the effect of social support on secondary special needs students' self-esteem?
- 3) What is the effect of self-esteem on secondary special needs students' academic achievement?
- 4) Does self-esteem play a mediating role in the association between social support and academic achievement?

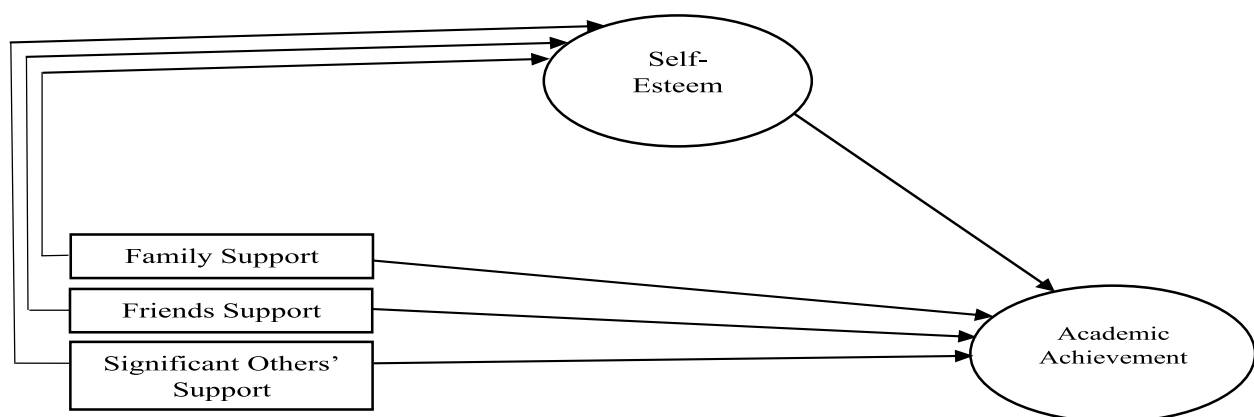


Fig. 1 Theoretical-structural equation model

Methods

Research design

This research is a cross-sectional quantitative inquiry in nature to examine the effect of social support on special needs students' academic achievement, the effect of social support on secondary special needs students' self-esteem, the effect of self-esteem on academic achievement, and the mediating effect of self-esteem between social support and their academic achievement as a dependent variable. The questionnaires used in this study are specific scales to measure the special needs students' social support and self-esteem in relation to their academic achievement. What follows is a detailed description of each scale.

Social support

We utilized the Multidimensional Scale of Perceived Social Support (MSPSS) [24] which consists of a total of 12 items capturing the multidimensionality of social support with 4 items for each of the three subscales measuring participants' social support across three different dimensions: family, friends, and a special person (significant other). Being adopted and used in many different studies worldwide, the scale has a good and satisfactory psychometric property pertaining to reliability index for all three subscales ranging from 0.88 (family), 0.85 (friends), and 0.78 (significant other) Cronbach's α coefficient. Sample items of the tool include "I get the emotional help and support I need from my family" (family support subscale), "My friends really try to help me" (friends' support subscale), and "I have a special person who is a real source of comfort to me" (support from a special person/significant other subscale). All the items were rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scale was translated to Kurdish utilizing the back-translation method. First, the scale was translated to Kurdish by two researchers working in the field and then back-translated to English by a third researcher. Then, any inconsistencies of the translation process were resolved by consensus. As such, the final version was produced to be used in terms of clarity of the concepts and items of the scale.

Self-esteem

As the most popular instrument, we measured the students' self-esteem utilizing the Rosenberg Self-Esteem Scale (RSES) [11]. RSES consists of 10 statements devised to assess one's self-esteem. The items include the following: "On the whole, I am satisfied with myself," and "I am able to do things as well as most other people" to name a few. Participants were asked to rate these items on a 5-point Likert scale ranging from 1 (strongly disagree) to

5 (strongly agree), and the same procedure was followed regarding the back-translation to Kurdish. Like MSPSS, RSES has a good validity and reliability across different studies in different contexts across the globe. However, the data in the present study yielded a Cronbach's α coefficient of 0.86. The questionnaire is usually used to individuals over 11 years, and it has 5 positively worded and 5 negatively worded items. The negatively worded statements are reverse scored.

Academic achievement

During the data collection process, we asked the school students to report their academic achievement. The academic achievement we asked for was the overall grade of their previous academic year in school. The overall grade was an arithmetical mean of the grades in all subjects. For the purpose of this study, participants' average mark ranged from 0 to 100, in which higher average mark indicated better academic achievement.

Data collection procedures and statistical analysis

To collect the desired data to answer the research questions of the study, we administered a questionnaire pertaining to social support, self-esteem, and academic achievement of the target sample during the months of June and July 2022. A team of four assistants helped with the data collection. Since there were different disabilities among the students with special needs, the team went to the homes of those students and handed them an iPad with the instruments in it in order for them to complete the questionnaires. Using convenience sampling, a total number of 200 special needs secondary students (nearly more than half of the sample was males) were surveyed about their social support, self-esteem, and academic achievement in the form of overall mark. The participants (mean age of 14 years) had different physical disabilities such as physical movement, handicap, visual problems, stuttering, and deaf. Therefore, the participants of our study did not have learning difficulties or emotional and behavioral difficulties such as attention-deficit disorder (ADD), attention-deficit hyperactivity disorder (ADHD), learning disabilities (LD), autism spectrum disorder, intellectual disability, and Down syndrome. Prior to data collection, permission was sought from the relevant people as well as the students to conduct the research. The data collection required approximately 10–20 min to complete. It is also important to state that participation in this study was voluntary, and they were all kept anonymous.

Utilizing a Google Form, all the students' responses were entered into Microsoft Excel and then were transferred to SPSS. The analyses were conducted using IBM SPSS 26 and AMOS 26 statistical package for descriptive

and inferential analyses. Cronbach's alpha coefficients were run to evaluate the psychometric properties of the instruments used in the current study. Also, structural equation modeling (SEM) was conducted to identify the direct and indirect effects of the independent variable (social support) on the dependent variable (academic achievement) through using the mediating variable (self-esteem) and the effect of social support on the students' self-esteem. Although there is not a specific consensus in the literature on what would be a sufficient sample size [25], usually a minimum sample size to conduct SEM has been 100–150 as highlighted by Anderson and Gerbing [26] and Tabachnick and Fidell [27]. Among others, Barrett [28] and Kline [29] also note that strong inferences from analyses of structural equations models depend on a sufficient sample size of 200 cases. As such, a sample of 200 secondary students with special needs was considered appropriate for the structural equation modeling analysis in the present study.

Results

Table 1 presents the descriptive statistics by showing minimum, maximum, means, and standard deviations for social support, self-esteem, and academic achievement calculated by averaging the raw scores of all the items included in each of the scales or subscales to delve into the effect of social support and self-esteem on academic achievement. Considering the components of social support, the students in this study scored the highest on significant other subscale ($M=4.46$, $SD=0.67$) and the lowest on friends' support ($M=3.95$, $SD=1.00$) as depicted in Table 1. With regard to self-esteem, the participants reported the following mean score: $M=3.78$ and $SD=0.76$. The descriptive statistics reveal that the participants have positive social support from their families, friends, and significant others. The findings also indicate that the sample possesses reasonable level of self-esteem. These results have offered the statistic foundation to further examine the variables and the mediating role of self-esteem between social support and academic achievement.

We tested the model of this research which consists of identifying the direct effect of independent variable of social support (family, friend, significant other) on dependent variable which is academic achievement and the effect of the mediating variable (self-esteem) on academic achievement. With the aim of having the model and by supporting our theoretical framework, structural equation modeling — AMOS program was performed to design our model as it is presented in Fig. 2. To measure our model fit, we deleted items 1, 4, 5, and 6 of self-esteem measurement as depicted in Table 2 above. The measures employed in this model all reached acceptable fit thresholds as presented in Table 2 [27, 30–33].

In this study, using AMOS, structural equation modeling was performed to analyze the direct and indirect effects of social support on the students' academic achievement, the effect of social support on their self-esteem, and the effect of self-esteem on academic achievement. The results of SEM indicate that family and friends predict the students' academic achievement ($p<0.05$), while significant other does not predict their academic achievement ($p>0.05$). The findings of the structural equation modeling also indicate that family predicts the students' self-esteem ($p<0.05$), while friends and significant other do not have any effect on their self-esteem ($p>0.05$). The results of the SEM analysis also reveal that family has indirect effects on the students' academic achievement, while friends and significant other do not have indirect effects on the students' academic achievement, showing that self-esteem partially mediates the relationship between social support and academic achievement. Last, our analysis also revealed that self-esteem could predict the students' academic achievement ($p<0.05$) as presented in Table 3.

Discussion

The current contribution was an attempt to uncover the relationship between social support, self-esteem, and academic achievement among secondary students with special needs in the city of Halabja in Kurdistan Region, Iraq. Specifically, we investigated the effect of social support on academic achievement and self-esteem, the effect

Table 1 Descriptive statistics

| Variables | N | Minimum | Maximum | Mean | Std. deviation |
|----------------------|-----|---------|---------|-------|----------------|
| Social support | | | | | |
| 1. Family | 200 | 1 | 5 | 4.22 | 0.88 |
| 2. Friends | 200 | 1 | 5 | 3.95 | 1.00 |
| 3. Significant other | 200 | 2 | 5 | 4.46 | 0.67 |
| Self-esteem | 200 | 2 | 5 | 3.78 | 0.76 |
| Academic achievement | 200 | 20 | 96 | 59.73 | 13.04 |

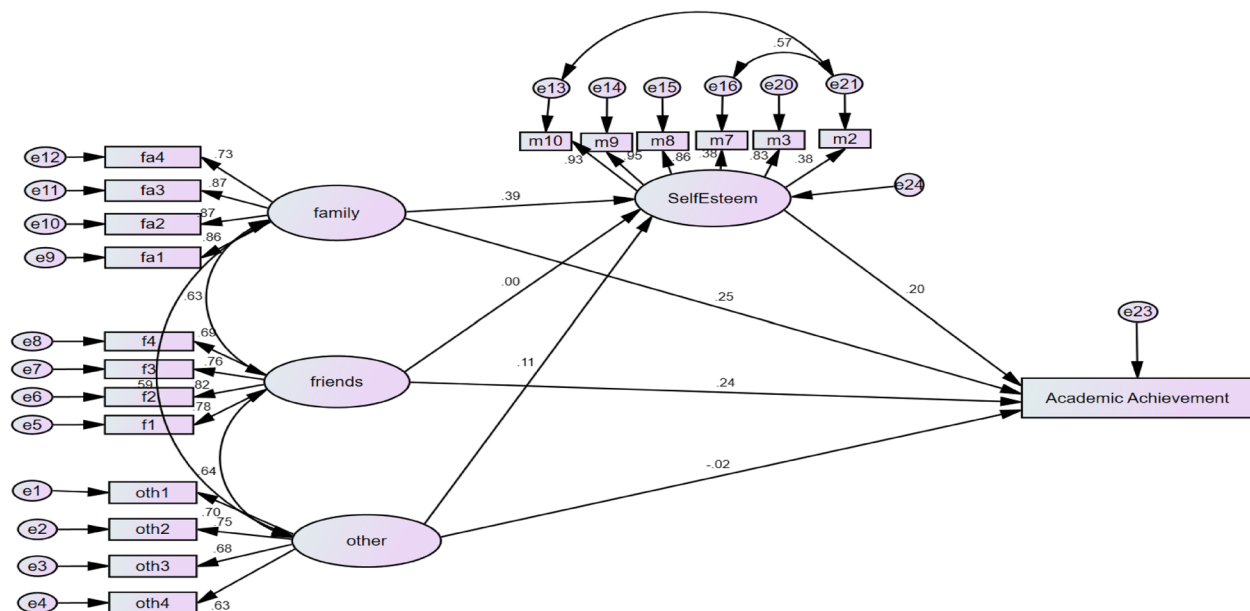


Fig. 2 Schematic representation of path coefficient values for the relationships between social support, self-esteem, and academic achievement

Table 2 Model fit indices

| Fitting indexes | RMSEA | CMIN/DF | PNFI | AGFI | PCFI | IFI | CFI |
|-----------------|--------|---------|--------|--------|--------|--------|-------|
| Cut value | ≤ 0.08 | ≤ 3 | ≥ 0.60 | ≥ 0.80 | ≥ 0.60 | ≥ 0.90 | ≥ 0.9 |
| The model | 0.08 | 2.542 | 0.708 | 0.810 | 0.749 | 0.910 | 0.908 |

Table 3 The direct, indirect, and total effects ($N=200$)

| Variables | Direct effects | | Indirect effects | | Total effect | |
|--|----------------|---------|------------------|---------|--------------|---------|
| | Estimate | p-value | Estimate | p-value | Estimate | p-value |
| Family → academic achievement | 3.971 | 0.010 | 1.202 | 0.007 | 5.173 | 0.008 |
| Friends → academic achievement | 3.744 | 0.020 | −0.10 | 0.952 | 3.734 | 0.031 |
| Significant other → academic achievement | −0.400 | 0.870 | 0.522 | 0.327 | 0.075 | 0.996 |
| Self-esteem → academic achievement | 2.176 | 0.005 | - | - | - | - |
| Friends → self-esteem | −0.004 | 0.978 | - | - | - | - |
| Family → self-esteem | 0.522 | 0.000 | - | - | - | - |
| Significant other → self-esteem | 0.239 | 0.324 | - | - | - | - |

of self-esteem on academic achievement, and the mediating role of self-esteem in the relationship between social support and academic achievement. Using a sample of 200 secondary students with special needs, we employed a questionnaire survey to answer four research questions. To this end, a structural equation modeling approach was performed to propose a casual structural model of the relationship between the variables of interest in this study.

The results show that students whose possess higher social support tend to outperform in their academic achievement in comparison with those with lower social support. Based on the findings and what our structural equation model portrays (Fig. 2), the effect of family and friends on academic achievement was statistically significant, indicating that family and friends can have an impact on the students' academic achievement in school. Thereby, it can be inferred that the support received

from family and friends predicts academic achievement (Table 3). However, as the results yield, the effect of significant others was not found to be statistically significant, showing that the support received from a significant other such as teachers, school staff, and the society does not predict any change in academic achievement. As we predicted, measuring indirect effects of social support on academic achievement, the findings of the SEM analysis also indicate that family was found to be statistically significant, while support received from friends and significant other was not (Table 3). It can therefore be inferred that the support received from family has direct and indirect effects on the students' academic achievement, but support from a significant other does not have any direct or indirect effects on their academic achievement. Taking the results of the indirect effects of social support into our consideration, we can conclude that self-esteem plays as a partial mediator in the association between social support and academic achievement. The direct effect of social support on academic achievement has been discussed in past studies, and our study corresponds to them [7, 8].

As the previous literature on social support, self-esteem, and academic achievement reflected, the interplay between them was under examination with regard to students with special needs in Kurdistan, and to date, no empirical studies have been conducted in this regard. As a further outcome, this present study found that family support could contribute to self-esteem, but friends and significant other were not predictors of self-esteem. In other words, a high level of social support from family is considered as a significant predictor of the students' self-esteem [1, 10, 13], indicating that any support from family could contribute to increase the students' self-esteem. Further analysis of this study was also the effect of self-esteem on academic achievement which was confirmed in the present study. In conjunction with past studies, our findings revealed that students can perform better in their studies when they feel confident in their own ability and value [34–36]. These results have also been documented before that the support received from family could change self-esteem, which in turn facilitates their academic achievement [14, 37].

These findings suggest that students with higher self-esteem will have higher aspirations in their personal life and are more confident individuals which correspond to the studies carried out before. Although there is a general agreement in the body of literature pertaining to the effect of social support on students' academic achievement, Solichin et al. [19] have asserted that social support has no direct effect on students' academic outcome. This shows that our study's findings are not consistent with that of Solichin et al. [19]. Hereby, the findings found in

this attempt reveal that social support is an important constituent in increasing academic achievement of the students with special needs. Similarly, self-esteem is an important influence that affects academic achievement of secondary students with special needs. The results of our study are specifically apparent that social support from family either directly or indirectly helps students to handle their academic achievement more effectively [5]. In other words, when students in general and students with special needs, in particular, are emotionally and socially supported by their family members, they can improve in their educational lives for the better. Overall, this study suggests that social support, especially from family and friends, provides an affective balance in the educational lives of students with special needs.

Conclusions

We consider the present study as the first endeavor to show the interaction between social support, self-esteem, and academic achievement conducted in the context of Kurdistan Region, Iraq. This study concludes that students with higher perceived social support are likely to have higher self-esteem, and that they tend to outperform in their academic achievement. Thus, the support received from family and friends could contribute to the students' academic buoyancy. However, the results of structural equation modeling in our study also confirmed that the support received from a significant other such as teachers, school staff, and the society is low and does not predict their academic achievement. Thus, it can be concluded that students in general, and students with special needs, in particular, can regulate their academic achievement more effectively when they are armed with social support from family and friends. Our study also found that the students felt more confident and valued when they receive family support, and in turn, they could facilitate their academic achievement. In such a situation, implications in this study could include the efforts to increase perceived social support from family and friends during secondary schooling in pursuit of students' academic success. These seminal results also show us the need to educate parents and family members to remain close to their children with special needs, using parental practices that could increase self-esteem, in which it can assist them in their educational lives. These outcomes also suggest that awareness pertaining to increasing social support from teachers, school staff, and the society in general is necessary to support students with special needs.

In this investigation, the use of a multidimensional measure of perceived social support adds to the strengths of the study, as it allowed the distinct investigation of the role of each perceived social support source separately.

The main reason we investigated sources of social support separately was that we wanted to have a better insight of each source of social support. The present study offers several significant contributions. It sheds light on the importance of perceived social support on enhancing students' self-esteem and thereby facilitating their academic achievement. This attempt provides an empirical framework for further examination of the variables addressed in this study within the context of students with special needs. These outcomes have thus extended our understanding of social support in secondary schools in general, and students with special needs, in particular, in providing vital recommendations in pursuit of improving their quality of life.

Limitations

While the current study holds seminal implications, it suffers from some limitations. For example, a quantitative study was employed to answer the study's research questions, and that may not provide a complete picture and full discussion of social support, self-esteem, and their relation with academic buoyancy. Therefore, it would have had more insights and deeper understanding if a mixed-methods research approach is employed to explore the relationship between social support, self-esteem, and academic success in the future. Future research considerations can therefore incorporate conducting interviews with the relevant stakeholders, students, parents, and school administrators to fully understand the issue. The possible effect of demographic variables on the students' social support, self-esteem, and academic achievement was also not touched in this contribution. This limitation therefore offers future researchers the importance of examining this part and investigate its potential variations in this regard.

Abbreviations

| | |
|-------|--|
| MSPSS | Multidimensional Scale of Perceived Social Support |
| RSES | Rosenberg Self-Esteem Scale |
| ADD | Attention-deficit disorder |
| ADHD | Attention-deficit hyperactivity disorder |
| LD | Learning disabilities |
| SPSS | Statistical Package for Social Sciences |
| SEM | Structural equation modelling |

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s43045-023-00316-2>.

Additional file 1.

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Authors' contributions

KMS, ASA, and ZMR contributed to the study concept and design. ZMR and KMS worked on writing the review of literature. Methodology, writing and/or interpreting the results, discussion, conclusions, the overall writing, and reviewing and revising the manuscript critically for significant intellectual content were conducted by KMS. While NAS helped with the data collection process, ASA conducted all the statistical analyses; the approval of the version of the manuscript to be sent for publication was done by KMS. All authors read and approved the final submitted version.

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Availability of data and materials

All data generated or analyzed during this study are included in this published article and its supplementary information files.

Declarations

Ethics approval and consent to participate

This research study was approved by the Halabja Disabled Organization. All the participants gave verbal informed consent to serve as participants of the present study. During the data gathering stage, the description section provided explanation that all the answers provided would not be shared with any party or organization, and it is only used for research purposes. Also, confidentiality of participants was taken into consideration since no personal information was gathered on the questionnaire. Thereby, we confirm that all the methods were conducted in accordance with the relevant ethical considerations in research.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

Author details

¹Faculty of Education, Department of English Language, Koya University, KOY45, Koya, Kurdistan Region, Iraq. ²Faculty of Education, Department of Education and Psychology, Koya University, KOY45, Koya, Kurdistan Region, Iraq. ³Faculty of Basic Education, Department of English Language, University of Raparin, Ranya, Kurdistan Region, Iraq. ⁴Department of Social Sciences, College of Basic Education, University of Halabja, Halabja, Kurdistan Region, Iraq.

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