



Social Support, Empathy and Academic Engagement: A Mediation Study

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Abstract: Academic engagement is a crucial construct in educational psychology. Academic engagement depends on a range of aspects that are associated to student characteristics, teacher, teaching methods, peers, and school features. This research aimed to examine the role of social support in predicting academic engagement mediated by empathy in high school students. We used a descriptive correlation design and examined the proposed model via structural equation modeling. The studied population included all female high school students of Baharestan, Tehran (Iran) in 2022. Participants were 320 people were selected by accessible sampling method. We used the Vaux social support appraisals (SS-A) scale, Fredricks school engagement and Adolescent Measure of Empathy and Sympathy (AMES) to collect data. Our results indicated that social support has a direct and positive effect on empathy ($P < .01$, $\beta = .556$) and empathy has a direct positive effect on students' academic engagement as well ($P < .01$, $\beta = .329$). Furthermore, social support affects students' academic engagement both directly ($P < .01$, $\beta = .486$) and through empathy ($P < .01$, $\beta = .183$). Overall, the results of this study exhibited that empathy can play a mediating role in the relationship between social support and students' academic engagement. The results point to the importance of considering emotional and social factors as predictors of academic engagement in high school students.

Keywords: Academic Engagement, Social support, Empathy, High school students

Introduction

In recent years, a phenomenon that has attracted the attention of educational systems is the academic engagement. This issue is placed in the field of positive psychology. Positive psychology is one of the emerging branches of psychology that focuses on human success and growth while many other branches of psychology focus on abnormal and disordered behaviors ([Abbasi, Shahkarami, & Aalipour, 2019](#)). [Lamborn, Brown, Mounts, and Steinberg \(1992\)](#) have defined academic engagement as students' psychological capital and their direct efforts to learn and acquire skills and the desire to improve the level of success, which causes effective participation in school activities, participation in class activities, adaptation to school culture, proper relationship with teachers and other students. Academic engagement has three dimensions: being attracted to education, having a passion for education, and being devoted to education ([Zhao, Zheng, Pan, & Zhou, 2021](#)). Students, who have higher academic engagement, pay more attention and focus on learning issues, show more commitment to school rules, avoid inconsistent and undesirable behaviors, and perform better in tests. On the other hand, the lack of academic engagement leads to serious consequences such as not

progressing in school, the tendency to deviant behaviors and the risk of dropping out of school ([Amerstorfer & Frein von Münster-Kistner, 2021](#)).

Academic engagement improves academic performance and increases students' participation in academic activities ([Gasiewski, Eagan, Garcia, Hurtado, & Chang, 2012](#)), so in recent years, studies have paid a lot of attention to it.

Furthermore, providing any source of support directly or indirectly can increase the level of desire and performance of students ([Sheykholeslami & Karimiyan, 2018](#)). In fact, the amount of social support means relationships between people and social interactions and is defined as responding to the needs of other people ([Heerde & Hemphill, 2018](#)). Social support is divided into two types: structural (it refers to the objective aspects of support and is defined as basic and primary social communication) and functional (it is the qualitative aspect of social communication that is largely related to stress coping styles ([Zhang, Wu, Ji, & Wu, 2022](#))). Functional social support includes functions such as informational support, instrumental support and respecting the person, intimacy in social communication, the amount of access and the time of receiving social support. Structural social support has basic effects while functional social support is more combined with interactions and has a protective role ([Zhang et al., 2022](#)). The results of studies have shown that there is a significant and positive correlation between academic engagement and social and academic support ([Gasiewski et al., 2012](#); [Li, Han, Wang, Sun, & Cheng, 2018](#); [Mulyadi & Saraswati, 2020](#); [Sheykholeslami & Karimiyan, 2018](#); [Tamanneifar, Leys, & Mansourinik, 2013](#)). In a study, [Eslami, Dortaj, Sadipour, and Delavar \(2016\)](#) showed that supported performance and academic self-efficacy have a direct effect on academic engagement. [Vargas-Madriz and Konishi \(2021\)](#) also showed that perceived support from parents has a direct relationship with academic involvement, and perceived support from peers and teachers is related to academic involvement through a sense of belonging to school.

Regarding the relationship between academic engagement and social support, it seems that some variables can play a mediating role in strengthening or moderating this relationship. The construct of empathy is one of the psychological structures that can influence the behaviors and emotions of learners. Empathy is the basic capacity of people in regulating relationships, supporting joint activities and group cohesion. This ability plays an essential role in social life and is the motivating force of social and group behaviors ([Rieffe, Ketelaar, & Wiefferink, 2010](#)). Empathy means seeing the world from the perspective of others, the emotional ability to experience the emotions of others, and the cognitive ability to understand the emotions of other people ([Van Lissa, Hawk, & Meeus, 2017](#)). Empathy includes two main dimensions: emotional empathy and cognitive empathy ([Verhofstadt et al., 2016](#)). The affective component involves sharing the feelings and emotions of others. On the other hand, cognitive empathy is the ability to consider another person's point of view and understand their thoughts and feelings ([Verhofstadt et al., 2016](#)).

Empathy ability plays an important role in differentiating people who engage in altruistic behavior or not ([Verhofstadt et al., 2016](#)). Empathetic people, in addition to feeling other people's concerns, also have three other characteristics; 1) Having an empathic feeling; feeling a kind of concern and

apprehension for the needs of others, 2) internal dialogue; the ability to put yourself in the shoes of others and 3) feeling imaginary empathy; People who have high empathy in these dimensions show an emotional response when a person around them has a problem and then try to solve that problem ([Morelli, Lieberman, & Zaki, 2015](#)). Empathy is the root of many altruistic behaviors and one of the most important components that determine supportive and helpful behaviors towards others ([Abbasi & Hojjati, 2016](#)). On the other hand, empathic people are able to understand the emotional states of others and internalize these states ([Shaeikholeslami & Noori, 2016](#)). This ability plays an crucial role in social life ([Rieffe et al., 2010](#)) and successful personal performance ([De Sousa et al., 2011](#)). In addition, [Park et al. \(2015\)](#) indicated in a research that there is a positive and significant correlation between relationships between empathy, stress and social support among medical students. Also, [Javadi Elmi and Asadzadeh \(2020\)](#) in a research showed that social support and help-seeking had a direct effect on academic engagement and social support and help-seeking were indirectly related to academic engagement through academic vitality. As well, it has been indicated that academic engagement has an effect on improving academic performance and increasing students' participation in positive academic activities ([Vizoso, Rodríguez, & Arias-Gundín, 2018](#)). In the recent years, academic engagement has been the focus of research studies. Therefore, identifying the factors affecting this variable can help to create positive changes in academic performance and increase students' participation and reduce the problems caused by low academic performance and reducing students' participation in school. Therefore, the present study was conducted with the aim of testing the structural relationship model of social support and academic engagement mediated by empathy in high school students.

Material and Methods

The present research was a descriptive-correlation type and use structural equation model for examining the proposed model. The study population was all female high school students in district 2 of Baharestan (Tehran) in 2021. Since, in the structural equation modeling the sample size can be determined between 5 and 20 observations for each measured variable, therefore, 320 students who volunteered to participate in the research were selected through accessible sampling. The data collection tools were the following questionnaires:

Academic Engagement Questionnaire: This 15-question scale was developed by [Fredricks, Blumenfeld, Friedel, and Paris \(2005\)](#), which has three subscales: behavioral engagement (questions 1, 2, 3, 4), emotional engagement (questions 5, 6, 7, 8, 9, 10) and cognitive engagement (questions 11, 12, 13, 14, 15). Participants were asked to indicate their response on a five-point Likert scale (very low = 1 to very high = 5). In [Fredricks et al. \(2005\)](#) study, content validity was confirmed and reliability was obtained with Cronbach's alpha method of 0.66. In [Abbasi et al. \(2019\)](#), content validity was confirmed and reliability was obtained using Cronbach's alpha method of 0.66. Also, in the present study, the reliability of the entire questionnaire was obtained with Cronbach's alpha method of 0.86.

Adolescent Measure of Empathy and Sympathy (AMES): This 12-question questionnaire was developed by [Vossen, Piotrowski, and Valkenburg \(2015\)](#). Questions are scored on a five-point Likert scale from 1 (never) to 5 (always). The range of scores is between 12 and 60, and higher scores indicate more empathy. [Vossen et al. \(2015\)](#) have reported the Cronbach's alpha coefficient for the cognitive and emotional dimensions of empathy as 0.86 and 0.75, respectively. Also, the reliability coefficient of the test-retest with a time interval of two weeks was calculated as 0.66 for the cognitive aspect and 0.56 for the emotional aspect. In [Narimani, Fallahi, Habibi, and Zardi \(2017\)](#) work, the validity of this scale was confirmed by factor analysis method, and reliability was obtained by Cronbach's alpha coefficient method for cognitive empathy equal to 0.71, for emotional empathy 0.78 and for the whole questionnaire 0.70. Also, in the current study, the reliability of the entire questionnaire was obtained with Cronbach's alpha method of 0.72.

The Social Support Appraisals (SS-A) Scale: This 23-question questionnaire was developed by [Vaux et al. \(1986\)](#), which is graded on a 5-point Likert scale from 5: completely agree to 1: completely disagree. The range of scores is between 23 and 115, and higher scores indicate more social support. [Khabaz, Karimi, Karimian, and Shah Bakhsh \(2014\)](#) calculated the internal reliability coefficient of this test in a group of 300 students of Allameh Tabatabai University as 0.66. In the present study, the reliability of this questionnaire was 0.79.

Before the start of the study, all participants completed the informed consent form and after explaining the objectives of the research, research questionnaires were provided to them to complete. Finally, after completion, the questionnaires were collected and the data was analyzed through SPSS-24 and AMOS-24 statistical software.

Results

According to the findings of the research, 104 students are 16 years old, 110 students are 17 years old, and 106 students are 18 years old. Also, 100 students are studying in the 10th grade, 111 students in the 11th grade, and 109 students in the 12th grade. Table 1 shows the mean, standard deviation and correlation coefficients of the research variables.

Table 1. Statistical description and matrix of correlation coefficients of research variables

Variable	Mean	SD	1	2	3
1. Social support	79.64	10.81	1		
2. Empathy	23.50	4.16	.46**	1	
3. Academic engagement	52.91	9.69	.51**	.54**	1

** Significant at .01

According to Table 1, the correlation coefficients between social support and empathy with academic engagement are positive and significant ($P < .01$). The positive coefficients indicate the relationship between social support and empathy with students' academic engagement. In order to test the research model, structural equation modeling was used using the maximum likelihood method using Amos

software. Before using structural equations, univariate outlier data were analyzed using box plot and multivariate outlier data were analyzed using Mahalanobis statistic and excluded from the data set. The skewness and kurtosis of the distribution of variable scores were calculated using SPSS software and the results showed that none of the values of skewness and kurtosis were greater than the range of ± 1 . The normality of the data was checked using the Kolmogorov-Smirnov test. The results showed that the distribution of scores of all variables is normal ($P > .05$).

The assumption of independence of errors was investigated with Durbin Watson (DW) statistic to calculate the regression equations of the research model, and the obtained value indicates the establishment of this assumption. The assumption of collinearity between variables was investigated using Pearson correlation between pairs of variables. Considering that the correlation of two variables of 0.9 and higher indicates collinearity, this problem was not observed in the data of this research. In addition, tolerance statistics and variance inflation factor were calculated in order to investigate multiple collinearity. The results showed that none of the values of the tolerance statistic are smaller than the permissible limit of 0.1 and none of the values of the variance inflation factor are larger than 10, so multiple collinearity was not observed in the data. After examining the assumptions and ensuring their establishment, in order to evaluate the model of the mediation role of empathy in the relationship between social support and academic engagement, structural equation modeling was used. The results are presented in Figure 1.

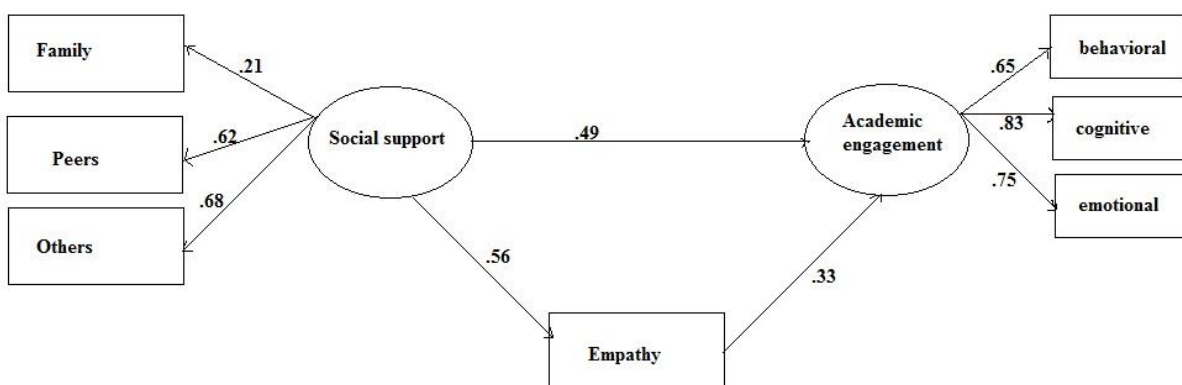


Figure 1. Standard coefficients of the model of the mediation role of empathy in the relationship between social support and academic engagement

Figure 1 shows the standard coefficients of the proposed model to investigate the mediating role of empathy in the relationship between social support and academic engagement. The indices related to the fit of the model are presented in the table 2.

Table 2. Goodness of fit indices of the tested research model

Fit indices	(χ^2/df)	GFI	NFI	RMSEA	CFI	IFI	SRMR
Accepted value	< 5	> .90	> .90	< .08	> .90	> .90	< .08
Proposed model	1.28	.98	.97	.03	.99	.99	.02

In Table 2, the fit indices of the model are presented. The ratio of chi square to the degree of freedom confirms the fit of the model. This number is in the range between 1 and 5 and means the fit of the model with the data. The root mean square error of approximation (RMSEA) is equal to .030 and the square root of the residual mean square (SRMR) is equal to .024, which is smaller than the criterion value (0.08) and thus confirms the fit of the model. IFI, CFI, GFI, and NFI indices are also greater than the favorite criterion (.90). The obtained coefficients indicate the optimal fit of the model. Table 3 shows the direct, indirect and total effects in the proposed model. According to the obtained results, social support ($\beta=0.556$, $P< .01$) has a direct and positive effect on empathy. Also, social support affects students' academic engagement both directly ($\beta = 0.486$, $P< .01$) and indirectly and with the mediation of empathy ($\beta = 0.183$, $P< .01$). As well, Empathy has a direct positive effect ($\beta=0.329$, $P< .01$) on students' academic engagement.

Table 3. Direct, indirect, total effects and explained variances of the variables

Path	Direct effect	Indirect effect	Total effect	Explained variance
Social support to empathy	.556**	-	.556**	.309
Social support to academic engagement	.486**	.183**	.669**	.523
Empathy to academic engagement	.329**	-	.329**	-

Discussion

This research was conducted in order to determine the role of social support in predicting academic engagement with the mediation of empathy in students. The obtained results showed that there is a positive and significant relationship between social support and academic engagement in students. The result were aligned with the findings of the studies of [Sheykholeslami and Karimiyan \(2018\)](#), [Eslami et al. \(2016\)](#) and [Vargas-Madriz and Konishi \(2021\)](#). The results of these studies have pointed out the relationship between academic were aligned and social and academic support. For example, [Eslami et al. \(2016\)](#) showed in a research that supported performance and academic self-efficacy have a direct effect on academic were aligned. [Vargas-Madriz and Konishi \(2021\)](#) also showed in a research that perceived support from parents has a direct relationship with academic were aligned, and perceived support from peers and teachers is related to academic were aligned through a sense of belonging to school.

Through social support, people can bear psychological pressures and even solve them with the help of others. Social support is a well-known coping strategy for the successful and easy confrontation of people in times of conflict and tension, which facilitates the completion of challenging tasks. When a person is sure that he is not alone in facing problems and that his friends, family and even other people

will help him and in fact bear part of the burden of the problem, he will be safe from suffering from weakness and despair and will use his strength to focus on solving the problem ([Moradi, Sheikholeslami, Ahmadzadeh, & Cheraghi, 2014](#)). In communication with others and receiving their support, a new structure of relationships and bonds is formed, which is effective in creating satisfactory life conditions, including in the field of education and academic involvement. In another explanation, it can be said that social support from family and friends through providing effective role models and vicarious experience, increasing positive interpretations and providing informational support, students' self-efficacy, and then, internal motivation and belief that they can do tasks increases the ability to do something successfully, and this, in turn, improves academic engagement.

Also, the results showed that there is a positive and significant relationship between social support and empathy in students. The obtained result was consistent with the findings of the [Saidi, Ahmadian, and Saffarinia \(2019\)](#) and [Park et al. \(2015\)](#). The results of [Saidi et al. \(2019\)](#) study pointed out the relationship between empathy and social communication and self-control. It can be said that social resources such as family, teacher, and peer support help a person to adapt, solve everyday problems, or important crises. In other words, the impact of social relationship increases the empathic behaviors ([Abbasi & Hojjati, 2016](#)).

Our results showed that the empathy variable can significantly mediate the relationship between social support and students' academic engagement. This finding was consistent with the studies of [Javadi Elmi and Asadzadeh \(2020\)](#) and [Park et al. \(2015\)](#). In explaining this finding, it can be said that students who have positive relationships and appropriate participation with their families and peers experience more engagement in homework and academic progress, because sharing educational matters (a kind of empathy) among students together, it makes them gain more insight into educational materials and, as a result, show more willingness to do educational assignments. Also, the support of peers and friends when dealing with homework reduces the amount of time wasted by students and causes improvement in the grades and performance of students who regularly receive this type of support ([Abbasi et al., 2019](#)). The effect of this participation increases when students have the most communication with friends and others due to the presence of empathy, because empathy is the basic capacity of people in regulating relationships, supporting joint activities and group cohesion ([Rieffe et al., 2010](#)). Therefore, it is not far from the expectation that the existence of this variable can provide the basis for improving individual performance and thus increasing academic engagement by influencing the proper communication of the individual.

Overall, the results of this study revealed that empathy can play a mediating role in the relationship between social support and students' academic engagement. Therefore, it is recommended that since creating passion for educational tasks and learning is the result of the interaction between social support and empathy in students, teachers in classrooms, in addition to performing their supportive role, should provide the context for supportive and empathetic communication between students and classmates. Conducting the present research on female high school students and using self-report questionnaires are among the limitations of the present research, which limits the ability to generalize

the results. Therefore, it is suggested future researchers repeat the research in male students and students of other educational levels in order to increase the generalizability of the results.

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