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Relationship between Sense of Rejection, Academic Achievement, Academic Efficacy, and Educational purpose in High School Students

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**Abstract** Keywords

The purpose of this study is to investigate the direct and indirect relationships between sense of rejection, academic achievement, academic efficacy, and educational purpose in high school students. Participants consisted of 353 students at 9th – 12th grades which have different socioeconomic levels. Participants' age ranged from 14 to 19 (mean = 16.93, standard deviation = .95), and there were 217 female (615%) and 136 male (38.5%) students. Structural equation modeling and correlation analysis were used to analyze the data with LISREL 8.5 and SPSS 22. Findings of correlation analysis indicated that the sense of rejection is negatively related to educational purpose, academic efficacy, and academic achievement; academic achievement is positively related to educational purpose and academic efficacy. Moreover, findings of structural equation modeling showed that the sense of rejection negatively predicted the educational purpose, academic efficacy, and academic achievement. On the other hand, the academic efficacy and educational purpose positively predicted academic achievement. To sum up, it is concluded that academic efficacy and educational purpose have partial mediator roles in the relationship between sense of rejection and students' academic achievement.

Sense of rejection Educational purpose Academic efficacy Academic achievement Exclusion Belonging

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## Introduction

According to the ecological model, an individual's environment is composed of various ecological systems (Bronfenbrenner, 1994), and each system includes both positive and negative experiences (Masten, Herbers, Cutuli, & Lafavor, 2008). These experiences are closely associated with the individual's development and psychosocial adjustment (Bronfenbrenner, 1994). School experiences appearing in mesosystem -that is one of these systems mentioned above- play a critical role in individual's academic, social and emotional development (Allen & Bowles, 2012). An individual spends most of his/her time at school during his/her educational process. Positive and negative experiences at school might have an important effect on individual's developmental process and cognitive outcomes. One of the experiences that may lead to negative outcomes in school settings is the sense of rejection. Sense of rejection is based on the perception that an individual is not respected, accepted, and supported by others at school (Goodenow, 1993). The sense of rejection can

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also be conceptualized as the perception of an individual as isolated and excluded from the school environment. A student who experiences these feelings does not see him/herself as a part of school (Duru, 2007). Therefore, rejection can be considered as a lack of sense of belonging and a form of exclusion at school (Duru, 2015; Sarı, 2013).

Research has supported that exclusion or rejection in school environment is closely associated with emotional and behavioral problems such as depression, loneliness, alcohol and drug use (Booker, 2006; Balkıs, Duru, & Buluş, 2005; Cemalcılar, 2010; Duru & Arslan, 2014; Osterman, 2000; Pittman & Richmond, 2007; Rostosky, Owens, Zimmerman, & Riggle, 2003), and low academic achievement or performance in school settings (Adelabu, 2007; Anderman, 2002; Booker, 2006; Goodenow & Grady, 1993; Özgök, 2013). Sarı (2013) stated that sense of rejection is a significant factor on low academic achievement, and when compared with students who have higher academic achievement, students with low academic achievement had higher level of sense of rejection. Pittman and Richmond (2007) found that low sense of belonging is related to academic achievement, and internalized and externalized adaptation problems. Considering these findings, it is seen that sense of rejection is a significant factor which might have negative effects on student's academic and psychosocial development.

## Sense of Rejection, Academic Efficacy and Educational Purpose

Academic efficacy includes beliefs and assessments regarding student's tendency to fulfill the academic behaviors (Renshaw, Long, & Cook, 2014). Direct and indirect experiences have critical roles in the development of academic efficacy (Telef & Karaca, 2011). Hence, experiences that might lead to negative feelings affect the individual's academic efficacy negatively as well (Telef & Ergün, 2013). Considering that an individual is in the process of identity development in especially adolescence, lack of belonging or sense of rejection has a significant role in shaping beliefs and judgments related to academic life. Previous research supports that students with high level of sense of rejection have low levels of academic efficacy (Babakhani, 2014; McMahon, Parnes, Keys, & Viola, 2008; Sahaghi, Birgani, Mohammadi, & Jelodari, 2015; Sarı, 2013). For example, McMahon, Wernsman, and Rose (2009) found that sense of school belonging is an important predictor of academic efficacy. Likewise, Uwah, McMahon, and Furlow (2008) reported that school belonging is closely associated with academic motivation and academic efficacy. In conclusion, a student with sense of rejection at school is expected to have lower levels of academic efficacy.

As another variable in this study, educational purpose can be defined as individual's expectations from future, and perception of the school as meaningful and important (Renshaw et al., 2014). A student' perceiving him/herself as rejected at school, which is one of the most important structure in education system, may cause school dropout and student's being isolated from the school (Pehlivan, 2006; Sakınç, 2013; Sarı, 2013). Accordingly, this sense negatively affects students' relations with others at school, participation in school activities (Campbell, 2014), academic performance and academic motivation (Anderman, 2002; Booker, 2006; Neel & Fuligni, 2013; Goodenow & Grady, 1993). Researchers point out that students, who see themselves as a part of their school, perceive the school experiences more meaningful, and by that means they have higher levels of academic achievement (Goodenow & Grady, 1993; Nichols, 2008). Israelashvili (1997) emphasized the important role of school experiences in shaping future expectations in the educational process. Considering the study results, it can be suggested that sense of rejection plays a significant role on students' educational purpose and expectations. That's to say, high level of sense of rejection might be expected to cause low level of educational purpose.

# The Mediator Role of Academic Efficacy and Educational Purpose

Having high level of academic efficacy along with the sense of rejection is closely related to student's academic performance as well (Sarı, 2013). High levels of academic, social and emotional self-efficacy in adolescence help the individuals cope with and manage negative experiences, and get positive outcomes (Bandura, 1994; Telef & Karaca, 2011). Furthermore, individual's beliefs about his/her competences are important factors in shaping emotions, cognitions and behaviors (Telef &

Karaca, 2011). Thus, it can be suggested that academic efficacy affects academic achievement and performance positively. Research has supported that there is a positive relationship between academic efficacy and academic achievement (Bandura, Pastorelli, Barbaranelli, & Caprara, 1999; Chemers, Hu, & Garcia, 2001; Carroll et al., 2008; Hampton & Mason, 2003; Vardarlı, 2005; Shkullaku, 2013). Bandura et al. (1999) reported that academic efficacy significantly affects students' academic achievement not only directly but also through pro social behaviors. Zimmerman, Bandura, and Martinez-Pons (1992) found that students' self-efficacy towards academic achievement and learning are important predictor variables of academic achievement. Roeser, Midgley, and Urdan (1996) noticed that sense of belonging predicted academic achievement by means of beliefs and emotions regarding to academic life. Therefore, it can be argued that academic efficacy may serve as a mediator factor that might be protective against the sense of rejection at school context.

Educational purpose is another factors that might have a role of reducing the negative effects of rejection, and supporting the academic achievement. Students' having educational and academic goals at school reflect on their academic motivation and participation in academic tasks positively (Goodenow & Grady, 1993). Researchers specify that a student with educational purpose and expectations have higher level of academic achievement. For instance, Balkıs, Arslan, and Duru (2015) found that goal valuation of high school students is an important factor of academic achievement and school attendance. Likewise, Balkıs and Arslan (2016) reported that students who have higher level of academic achievement regard school activities more meaningful and have higher levels of educational purpose. In addition to its direct effect, with reference to the relationship between academic motivation and being goal oriented (Eryılmaz & Aypay, 2011; Wolters, Yu, & Pintrich, 1996), educational purpose has a significant indirect effect on students' academic performances as well. Academic motivation can be defined as a desire or effort that the students have in order to keep their academic tasks on and reach a specific goal. For this reason, academic motivation plays an important role on student's academic tasks and academic achievement (Balkıs et al., 2015; Balkıs & Arslan, 2016). For example, Amrai, Motlagh, Zalani, and Parhon (2011) found that there is a positive relationship between student's academic motivation and academic achievement. McCoach and Siegle (2001) stated that students' motivation levels and educational purpose is important factors for academic achievement. Hence, students with goal-oriented behaviors and high level of academic motivation have higher levels of academic achievement (Balkıs et al., 2015; Peterson, 2000). By that means, educational purpose has a significant role on students' beliefs about being academically successful and their academic achievement (Ames & Archer, 1988). Taken together, academic efficacy and educational purpose might have a mediating role in the relationship between sense of rejection and academic achievement, and this might reduce the negative effect of rejection on academic achievement.

# The Purpose of the Current Study

In view of the context and theory sketched above, the sense of rejection in school environment can be suggested as a significant factor on academic efficacy, educational purpose and academic achievement (Anderman, 2002; Booker, 2006; Babakhani, 2014; McMahon et al., 2008; Israelashvili, 1997; Sarı, 2013; Pehlivan, 2006). Furthermore, much research has revealed that academic efficacy and educational purpose were positively associated with academic achievement (Balkıs et al., 2015; Balkıs & Arslan, 2016; Bandura et al., 1999; Chemers et al., 2001). Therefore, academic efficacy and educational purpose can be referred to be a mediator in the relationship between the sense of rejection and academic achievement. Moreover, examining the variables/factors which will reduce or remove the negative effects of sense of rejection on academic achievement-that is one of the important outcomes of educational process- seems to be essential in terms of prevention and intervention programs. In regards to this, the present study might provide significant contributions to supporting academic achievement, and reducing or preventing negative effects of rejection. In sum, this study investigated the direct and indirect relationships between sense of rejection, academic efficacy, educational purpose, and academic achievement, and following hypotheses have been proposed.

- 1. Does the sense of rejection in school context predict the academic efficacy, educational purpose, and academic achievement directly?
- 2. Does the sense of rejection predict the academic achievement indirectly by means of academic efficacy and educational purpose?

Theoretical model demonstrating the relationships between variables is presented in Figure 1.

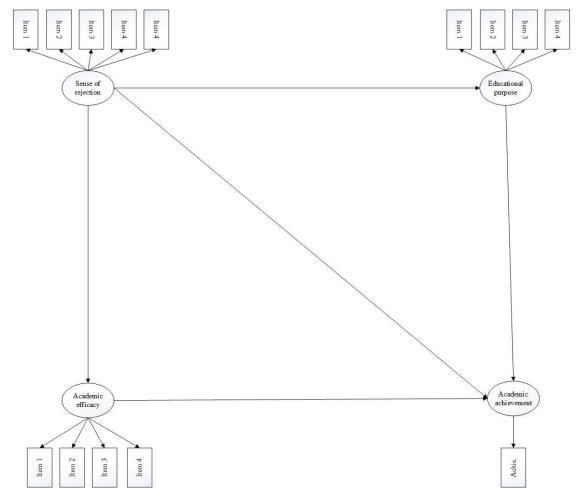


Figure 1. Theoretical Model

# Method

# **Participants**

The participants were 353 students at 9<sup>th</sup> -12<sup>th</sup> grades having different socioeconomic status (31% low SES, 42% medium SES, and 37% high SES). Participants' age ranged from 14 to 19 (mean = 16.93, standard deviation = .95), and there were 217 female (615%) and 136 male (38.5%) students. Study surveys were administrated to selected students attending different public high schools in Isparta. Convenience sampling was preferred as a sampling method. Before the data collection, the students were informed about the purpose of the research and the questionnaires. The questionnaires were distributed to students who agreed to participate in the study, and all questionnaire forms were collected in full.

#### Questionnaires

The Sense of Rejection: The Psychological Sense of School Membership Scale (PSSMS; Goodenow, 1993) was used to assess the students' sense of rejection at school. The scale was developed to measure students' sense of belonging to school. It is a self-report scale and consists of 18 items that rated on a 5-point-Likert-type scale (1=not at all true, 5=completely true). The scale includes two subscales which are "sense of belonging" and "feeling of rejection". The feeling of rejection subscale consists of five items (e. g. "It is hard for people like me to be accepted here", "Sometimes I feel as if I don't belong here" and "Teachers here are not interested in people like me."). The Cronbach's alpha was reported .70 in validity and reliability studies for Turkish sample (Sarı, 2013). In this study, the Cronbach's alpha value of feeling of rejection was found .75 and it provided a good fit to the data  $[\chi^2=5.77, df=3, p=.12; \chi^2/df=1.92; GFI=.99; CFI=.99; NFI=.98; IFI=.95; RMSEA=.051; SRMR=.023].$ 

Academic Efficacy: Academic Efficacy Scale, which is a subscale of the Student Subjective Wellbeing Questionnaire (SSWQ; Renshaw et al., 2014; Renshaw, 2015) that is developed to measure students' positive psychological functioning at school, was used to measure the students' academic efficacy. It consists of four items (e. g. "I am a successful student", "I get good grades in my classes") that rated on a 4-point-Likert-type scale (1= almost never, 4 = almost always). Confirmatory factor analysis with Turkish sample indicated that scale has a good-data model fit. The Cronbach's alpha value was reported .82 in the reliability study (Renshaw & Arslan, 2015). In this study, the Cronbach's alpha value of academic efficacy was found .81 and it provided a good fit to the data [ $\chi^2 = 3.46$ , df = 2, p = .18;  $\chi^2/df = 1.73$ ; GFI = .99; CFI = .99; NFI = .99; IFI = .99; RMSEA = .046; SRMR = .014].

Educational purpose: Educational purpose Scale, a subscale of SSWQ, was used to assess the students' educational purpose. It consists of four items (e. g. "I feel it is important to do well in my classes.", "I believe the things I learn at school will help me in my life."). Like Academic Efficacy scale, confirmatory factor analysis with Turkish sample indicated that scale has a good-data model fit. The Cronbach's alpha value was reported .81 in the validity study (Renshaw & Arslan, 2015). In this study, the Cronbach's alpha value of academic efficacy was found .84 and it provided a good fit to the data  $[\chi^2 = 2.827, df= 2, p=.23; \chi^2/df= 1.41; GFI=.99; CFI=.99; NFI=.99; RMSEA=.034; SRMR=.014].$ 

Demographic Information Sheet: Prepared by the researcher(s), this form includes demographic variables such as gender and age, and students' GPA of the last semester for the students' academic achievement.

## Data Analysis

The data was collected in two weeks and questionnaires were implemented in classes (nearly 45 minutes). Nine missing and invalid data were excluded from the analyses. After the exclusion of missing and invalid data, normality assumption was checked by using skewness and kurtosis. The structural equation modeling (path analysis with latent variables) and Pearson product-Moment correlation coefficient were used for data analysis with A LISREL 8.5 and SPSS 22. The structural model was examined using chi-square ( $\chi^2$  and  $\chi^2$ /df), root mean square error of approximation (RMSEA), standardized root mean square (SRMR), goodness of fit index (GFI), comparative fit index (CFI), tucker lewis index (TLI), and normed fit index (NFI). A low  $\chi^2$  is desirable and  $\chi^2$ /df (degrees of freedom) less than 3 is considered a good fit; the CFI, TLI, GFI, NFI, and IFI values of .90 or higher indicate good fit; the RMSEA and SRMR values of less than .05 are considered a close fit, and the values less than .08 indicate a good fit (Kline, 2011; West, Taylor, & Wu, 2012).

#### Results

Data was conducted in two phases. In the first phase, the correlation analysis and descriptive statistics of variables were examined. In the second phase of the analyses, measurement model and structural equation model were tested. The correlation values and descriptive statistics of variables are presented in Table 1.

Table 1. The Results of Correlation and Descriptive Statistics

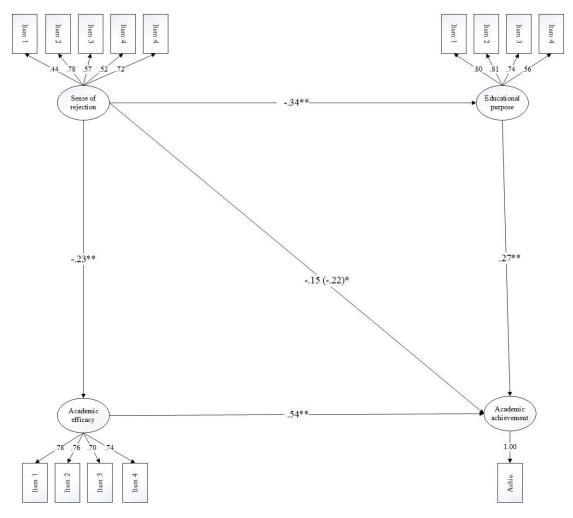
Variables	1	2	3	4	О	Sd	Skew.	Kur.
Sense of rejection	1	265**	189**	156**	13.94	4.58	.062	489
Academic efficacy	265**	1	.620**	.142**	11.26	3.47	517	639
Educational purpose	189**	.620**	1	.343**	11.90	3.04	567	188
Academic achievement	156**	.142**	.343**	1	81.21	8.12	1.064	.860

<sup>\*\*</sup>p<.001

The skewness and kurtosis values regarding variables ranged between -.639 and 1.064. These values are supposed to be acceptable and the variables have a normal distribution. The Pearson product-Moment correlation coefficient results showed that sense of rejection is negatively correlated to academic efficacy (r = -.265, p < .001), educational purpose (r = -.189, p < .001), and academic achievement (r = -.156, p < .001); academic achievement is positively correlated to academic efficacy (r = .142, p < .001) and educational purpose (r = .343, p < .001).

Before the structural equation modeling, measurement model was also conducted. To determine the sense of rejection, educational purpose and academic efficacy as latent constructs, items of each scale were used. The total academic achievement scores were defined as indicators of these constructs. Findings from measurement model analyses indicated that the measurement model had a good fit to the data [ $\chi^2 = 180.33$ , df = 72, p = .00;  $\chi^2/df = 2.50$ ; GFI = .93; CFI = .96; NFI = .95; IFI = .96; RMSEA = .067-%90 interval confidence = .054 -.079; SRMR = .059]. After testing the measurement model, the mediator role of academic efficacy and educational purpose was analyzed with structural equation modeling. Findings showed that the structural model provided a good fit to the data. The  $\chi^2$  value was significant and  $\chi^2$ /df ratio was 2.53 ( $\chi^2 = 179.68$ , df = 71, p < .001). The SRMR was .059, and the RMESA was .067 (90% confidence interval for RMSEA = .055-.079). Also the GFI, CFI, NFI, and IFI values were .90 and higher (GFI = .93, CFI = 96, NFI = 94, and IFI = 96). The results of structural model demonstrating relationships between variables are presented in Figure 2.

In addition, standardized regression estimates indicated that the sense of rejection negatively predicts academic efficacy ( $\beta$ = -.23, p<.001), educational purpose ( $\beta$  = -.34, p<.001), and academic achievement ( $\beta$ = -.15 [before the mediator variables = -.22], p<.05). The academic efficacy positively predicted students' academic achievement ( $\beta$  = .54, p<.001). Likewise, educational purpose positively predicted academic achievement in high school students ( $\beta$  = .27, p<.001). The findings indicated that academic efficacy and educational purpose partially mediated the relationship between sense of rejection and students' academic achievement. The sense of rejection, academic efficacy, and educational purpose together accounted for 20% of the variance in academic achievement. In conclusion, academic efficacy and educational purpose is supposed to function as reducing the negative impact of sense of rejection on academic achievement.



**Figure 2.** Structural equation model. *Note:* \*\*p< .05, \*\*p< .001.

## Discussion

The purpose of this study is to investigate the direct and indirect relationships between sense of rejection, academic achievement, academic efficacy, and educational purpose in high school students. Results indicated that the sense of rejection is negatively related to educational purpose, academic efficacy, and academic achievement; academic achievement is positively related to educational purpose and academic efficacy. Moreover, results of the structural equation modeling showed that the sense of rejection negatively predicted the educational purpose, academic efficacy, and academic achievement. On the other hand, the academic efficacy and educational purpose positively predicts academic achievement. Consequently, it was found that academic efficacy and educational purpose partially mediated the relationship between sense of rejection and students' academic achievement.

## Direct Relationships between Variables

Findings of this study revealed that students with low level of sense of rejection have low level of academic achievement as well which is consistent with previous research (Adelabu, 2007; Balkıs & Arslan, 2016; Goodenow & Grady, 1993; Özgök, 2013; Renshaw & Arslan, 2015; Sarı, 2013). Research showed that sense of rejection at school might lead to emotional and behavioral problems such as depression, loneliness, alcohol and drug use (Booker, 2006; Balkıs et al., 2005; Cemalcılar, 2010; Duru & Arslan, 2014; Osterman, 2000; Pittman & Richmond, 2007; Rostosky et al., 2003), and students with sense of rejection in school context have low academic achievement and performance (Anderman, 2002; Booker, 2006; Goodenow & Grady, 1993; Özgök, 2013; Sarı, 2013). Furthermore, consistent with the results of the current study, research has figured out that students with low level

of sense of rejection have high level of educational purpose (Anderman, 2002; Booker, 2006; Neel & Fuligni, 2013; Goodenow and Grady, 1993). An individual's perception him/herself as a meaningful part of school is a significant factor for his/her expectations from the school and the future (Israelashvili, 1997). Besides, if a student perceives him/herself as rejected or excluded at school, it may cause school absenteeism and dropout (Pehlivan, 2006; Sakınç, 2013; Sarı, 2013). Hence, this sense affects student's relations with other individuals at school, participation in school activities (Campbell, 2014), academic motivation, and academic performance negatively (Anderman, 2002; Booker, 2006; Sarı, 2013). For instance, Israelashvili (1997) found that school experiences have an important role in shaping future expectations in the educational process.

In addition, findings suggested that sense of rejection predicted the academic efficacy negatively. Consistent with this finding, researchers reported that students with low level or lack of sense of belonging might also have low level of academic efficacy and beliefs of being academically successful (Babakhani, 2014; McMahon et al., 2008; Sahaghi et al., 2015; Sarı, 2013). McMahon et al. (2009) found that that sense of school belonging was an important predictor of academic efficacy. Similarly, in another study, it was reported that there was a strong relationship between belonging to school and academic motivation, and academic efficacy (Uwah et al., 2008). Academic efficacy is closely associated with direct and indirect experiences (Telef & Karaca, 2011). The experiences that may lead to negative emotions influence the individual's academic efficacy negatively (Telef & Ergün, 2013). Therefore, a student's perceiving him/herself as rejected from the school may lead to low level of academic efficacy. Taken together, findings of the studies support that students with high level of sense of rejection have low level of academic efficacy, educational purpose, and academic achievement.

# The Mediator Role of Academic Efficacy and Educational Purpose

Findings of the study indicated that educational purpose and academic efficacy partially mediated the relationship between sense of rejection and academic achievement. Consistent with these findings, numerous studies have revealed that students with high level of educational purpose is more successful academically (Balkıs et al., 2015; Balkıs & Arslan, 2016; Goodenow & Grady, 1993). Students' having educational and academic goals at school affects academic motivation and participation in academic activities positively (Balkıs et al., 2015; Balkıs & Arslan, 2015; Goodenow & Grady, 1993). Therefore, a student who has educational goals and expectations is supposed to be academically successful. For instance, Balkıs et al. (2015) found that goal valuation of high school students is an important factor of academic achievement and school attendance. Likewise, Balkıs and Arslan (2016) reported that students who have higher level of academic achievement regard school activities more meaningful and have higher levels of educational purpose. In addition, educational purpose is closely related to academic motivation at school (Eryılmaz & Aypay, 2011; Wolters et al., 1996), and academic motivation plays an important role in student's academic activities and academic achievement (Amrai et al., 2011; Balkıs et al., 2015; Balkıs & Arslan, 2016). McCoach and Siegle (2001) stated that motivation levels of students and existence of educational purpose is important factors of academic achievement. Consequently, educational purpose has a significant role for reducing the negative effect of rejection, and supporting the academic achievement. Students, who have high level of academic motivation, participate in academic studies more frequently, and this positively affects their academic performance.

Research also reported the positive relationship between academic efficacy and academic achievement (Bandura et al., 1999; Chemers et al., 2001; Carroll et al., 2008; Hampton & Mason, 2003; Vardarlı, 2005; Shkullaku, 2013), which is consistent with the findings of the present study. An individual's beliefs about efficacy are important factors in shaping emotions, cognitions and behaviors (Telef & Karaca, 2011). In this regard, it can be said that high academic efficacy affects academic achievement and performance positively. Individuals with high level of academic efficacy against sense of rejection at school play a protective role on their academic achievement and performance. For example, Bandura et al. (1999) found that academic efficacy significantly affects students' academic achievement not only directly but also through pro social behaviors. Telef (2011) pointed out that students with higher levels of academic achievement also have higher levels of academic efficacy. Likewise, Shkullaku (2013) specified that there is a strong relationship between an individual's beliefs of efficacy and academic performance. In conclusion, students' high level of academic efficacy and educational purpose play a protective role in their academic achievement, and these findings support that academic efficacy and educational purpose can reduce the negative effects of sense of rejection on academic achievement in high school students.

## **Conclusion and Limitations**

The results of this study indicated that academic efficacy and educational purpose partially mediated the relationship between sense of rejection and academic achievement. The academic achievement can be accepted as one of the most important cognitive outcomes in educational process. By that means, the study is significant for prevention and intervention programs which are designed to support the academic achievement. The findings showed that academic efficacy and educational purpose has a partial mediator role in the relationship between sense of rejection and academic achievement. In this regard, designing psychological counseling, group counseling, and psychoeducational programs by school counselors in terms of academic efficacy and educational purpose is important for preventive and intervention efforts. By the help of these programs, students' academic efficacy and educational purpose can be increased; negative effects of rejection can be reduced, and academic achievement can be supported. Furthermore, for reducing the negative impact of rejection on academic achievement, educational purpose and academic efficacy of students, school psychological counselors can design prevention programs to increase the sense of school belonging. Besides, educators or teachers and school managers can support the experiences that increase the sense of belonging to school (e. g., positive teacher-student relationships, social activities such as theater, photography). These programs are intended to prevent and reduce the sense of rejection that may lead to negative outcomes.

The current study offers a theoretical framework and empirical assessment of relationships between sense of rejection, academic achievement, educational purpose and academic efficacy in high school students. Nevertheless, it should be evaluated by its limitations. In this study, the data was collected from the high school students through a self-report questionnaire. Therefore, the model can be tested at different educational levels. This study is based on the quantitative data. In future research, both qualitative or mix methods can be used to develop a more detailed picture of the relationships between variables. This study was a cross-sectional; thereby the longitudinal studies can be conducted to test the effectiveness of the model. Another important limitation of the study is its sampling method. Convenience sampling method was used in this study, and the sample included two high schools in Isparta. Therefore, these results cannot be generalized for all high school students. Finally, the study investigated the mediation role of educational purpose and academic efficacy. The mediating role of different variables such as academic motivation can also be investigated in the relationship between sense of rejection and academic achievement.

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