

## Factors Affecting Academic Self-efficacy of Syrian Refugee Students: A Path Analysis Model

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**Abstract:** In this study, the effect of resilience, perceived social support, life satisfaction and self-regulation variables on the academic self-efficacy of Syrian refugee undergraduate students were examined with a path analysis model. The sample consisted of Syrian undergraduate students living in Turkey. The sample of the research was randomly selected and participation was voluntarily. Data collection tools used were demographic information form, Arabic versions of academic self-efficacy, resilience, perceived social support, life satisfaction and self-regulation scales. In the data analysis, self-regulation and perceived social support selected as the exogenous variables, academic self-efficacy was selected as the endogenous variable, and resilience and life satisfaction were selected as the mediator variables. In the study, the direct and indirect effects from exogenous variables to academic self-efficacy were examined. The findings of the research revealed that self-regulation and perceived social support directly affected academic self-efficacy, life satisfaction had a mediating effect on perceived social support, and resilience had self-regulation. It is concluded that in order to increase the academic self-efficacy of refugee students, self-regulation and social support from the society should be increased, as well as life satisfaction and resilience against difficulties.

## 1. INTRODUCTION

The political internal disturbances, called the Arab Spring, which started at the end of 2010, spread to many Middle Eastern countries, and finally showed its effects in Syria. Political events affected Syria deeply, and the country completely went to civil war. During the years, the events in the country have become an international problem rather than being an internal issue of Syria. The Syrians refugees were forced to flee in neighborhood countries, especially in Turkey, because of the negative living conditions of the ongoing civil war and the influence of the terrorist organizations that emerge every day. According to the January 2020 reports of the United Nations Refugee Agency (UNHCR); about 5.5 million people left Syria and 6.6 million were moved within Syria. According to UNHCR data, 64.4% of the 5.5 million Syrians, forced

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to leave their country, and sheltered to Turkey. The data published on January 30, 2020, by the Directorate General of Migration Management in Turkey (DGMM) showed that the total number of registered Syrian refugees in Turkey was 3,576,344 and the 63 491 of those people stay in Temporary Accommodation Centers.

One of the most important rights of Syrian refugees in Turkey is to reach free education. Many of the young Syrians have begun or continued to university by this granted right. However, they have difficulties in their education life in Turkey due to the traumas they experience in the war environment, language problems, adaptation problems to the new culture, and negative perspective of the Turkish society. Due to having such external problems, Syrian students do not improve their academic self-efficacy that is a necessity to be successful in the school life (cite). This situation has a negative effect on their academic achievement and their belief in their academic skills (Bong & Clark, 1999; Demirdag, 2015). Therefore, Syrian students' academic self-efficacy and the potential factors effecting self-efficacy should be explored.

Bandura (1997) defined self-efficacy as the beliefs of individuals about their ability to plan and execute the necessary actions in the process of achieving their goals. According to Ekici (2012), academic self-efficacy is the perception of the individual that he/she can perform a given academic task at a determined success level. Based on these definitions, it is possible to define academic self-efficacy as individuals' beliefs about their skills of planning and executing the actions needed in the process of achieving an academic goal (Zimmerman, 1995). According to Bandura (1997), the factors that affect the perception about self-efficacy in individuals are direct experiences related to success, indirect experiences based on observation, verbal persuasion, and psychological-physiological situations. There is a high positive correlation between students' academic achievements and academic self-efficacy (Bandura, 1997; Ekici, 2012; Phan, 2012). In order to increase the academic success of refugee students, factors affecting academic self-efficacy should be emphasized.

Chung, AlQarni, Al Muhairi, and Mitchell (2017) studied the relationship between self-efficacy, trauma, posttraumatic stress and psychiatric diseases of 790 Syrian refugees living in Turkey. They found that traumatic events like war, armed conflict, etc., which affect adults very much, affect students much as well. Akkaya, Çilingir and Levent (2018) studied the Syrians in higher education levels and investigated the problems they experienced in Turkey. In the study, the problems faced by foreign students at higher education level were expressed as language problems, academic self-efficacy. Bayramdurdyeva (2019) examined the factors that affect the success of 48 international students (20 girls and 28 boys) from Asia, Europe, Africa, the Middle East, and North American. In the study, it was concluded that factors affecting the success of international students were family support, good-disciplined, friend/social environments, self-confidence and making use of the time well. On behalf of the good future of Turkey and the refugee students, the high academic achievement of students will facilitate the solution of the problems. Thus, it is necessary to support refugees come out of the war in terms of educational, social, economic and psychological problems.

Bandura (1997) states that self-efficacy is a necessity for self-regulation ability or vice versa. The studies (Aldan Karademir, Deveci, & Çayli, 2018; Garcia & Pintrich, 1996; Kayacan & Selvi, 2017) showed that there is a positive relationship between self-efficacy and self-regulation ability. Self-regulation is the management of emotions, thoughts, and movements in accordance with the goals wanted to achieve by the students (Kayacan & Selvi, 2017; Zimmerman & Schunk, 1989).

Masten (2001) argues that resilience consists of ordinary resources and processes, not rare features, and also it is the result of the well-performed basic compliance system. Resisting all risks and disadvantages like war, trauma, disability, etc., the ability to overcome them, and achieving positive outcomes regardless of the difficulties of life are defined as resilience

(Rutter, 2006). In other words, resilience is the individuals' adaptation to daily life skills correctly despite all stressful events. Considering the Syrian refugees living conditions in a war environment, resilience is very important for them to maintain their social life skills in a healthy way. The interaction of risk factors and protective factors is involved in the development of resilience skills (Masten, 2001). Many studies in the literature showed that wars are the risk factors affecting resilience levels (Hubbard, Realmuto, Northwood, & Masten, 1995; Masten & Coastworth, 1998; Peltonen, Qouta, Diab, & Punamaki, 2014; Pieloch, McCullough, & Marks, 2016; Demir & Aliyev, 2019). Peltonen et al. (2014) examined the resilience level and protective factors of 482 Palestinian students attending school during the war. As a result of the research, it was found that children with high resilience levels had better friendships compared to the traumatized group with low resilience levels. It was observed that social support and peer relations become protective factors in difficult conditions such as war.

On the other hand, Demir and Aliyev (2019) examined the sources of resilience in Syrian migrants who were victims of war in terms of risk and protective factors. According to the results of the research, while risk factors have more social sources, individual factors have individual sources. The risk factors mentioned in the research were mistrust to others, anger management, being pessimistic, financial difficulties, the influence of media, witnessing to death, disruption of education, social prejudice and exclusion, problems with the new settlement, language problem, change of living space, death of the family members, and living separated from family members. In case protective factors were; social support, career intentionality, patience, self-confidence, willingness to learn, perseverance, spirituality, financial support, host community support, immigrant support, and support from family members.

There are several studies related to resilience and self-efficacy in the literature (Arslan & Balkıs, 2016; Can & Cantez, 2018). Can and Cantez (2018) found the moderate significant relationship between university students' happiness, psychological resilience and self-efficacy levels. Arslan and Balkıs (2016) investigated the mediating role of self-efficacy and psychological resilience in the relationship between emotional abuse perceived from parents and problem behaviors in adolescence. As a result of the study, it was found that self-efficacy has a partial mediating role in the relationship between emotional abuse perceived by parents and psychological resilience. In addition, Turgut (2018) examined the relationship between the psychological resilience, academic achievement and academic self-efficacy levels of the students studying at the nursing faculty. In the results of the research, it has been determined that there is a positive but weak relationship between the psychological resilience and academic self-efficacy of the students; while there is a positive but weak relationship between academic self-efficacy and general academic average.

Getting high social support after the war reduces the effect of trauma (Karaman, Karadas, & Vela, 2019; Kuterovac-Jagodic, 2003). The literature showed the relation between the perceived social support and resilience (Güney, 2016; Süleymanov, Sonmez, Demirbas Unver, & Akbaba, 2017; Gez, 2018). There are many definitions of social support in the literature. Çakır and Palabıyıköğlü (1997) defined social support as getting the help of the nearby people. Social support can be physical or cognitive. Perceived social support is related to dimensions like the need for support after the problems experienced by the individual, how much these problems can be solved with the support received, the individual's expectations, etc., and this perception varies from person to person. Deryahanoğlü, Demirdöken, Canaydin and Yamaner (2019) investigated the levels of academic self-efficacy and perceived social support of university students. As a result of the research, there was no significant difference in the academic self-efficacy scores according to the nationality of the participants, but a significant difference in the sub-dimension of the family and friends of social support was detected. The study of

Danielsen, Samdal, Hetland, and Wold (2009) investigated the effects of perceived social support on school satisfaction, the mediation between scholastic competence and self-efficacy, students' life satisfaction. As a result of the research, it was found that the social support received from teachers was highly related to life satisfaction getting from the school. In addition, it was also found that there was a positive relationship between the levels of students' self-efficacy and life satisfaction. Gez (2018) conducted a study on Syrian children and adolescents and investigated the levels of psychological resilience and types of perceived social support in terms of demographic variables. As a result of the research, it was stated that there was a relationship between psychological resilience and perceived social support. In addition to the results, when the emotions and thoughts of Syrian children and adolescents are examined, many findings related to the risk factors for psychological resilience is observed. However, it is seen that the majority of the participants do not feel alone, they trust themselves, believe that they will be successful and want to return to their country. It is thought that this result is related to perceived social support.

The related literature showed the relation between perceived social support and life satisfaction (Danielsen et al., 2009; Diener & Fujita, 1995). Life satisfaction is the life expectancy of individuals to reach the expected level. Increasing perceived social support levels of individuals provides an increase in the positive effect of life satisfaction on individuals. In their study, Diener and Fujita (1995) emphasize that the resources (family, friendships, environment, etc.) in establishing social relations used by the individual, are important in subjective well-being. They also state that individuals' life satisfaction levels will be high if their aims and goals are compatible with their individual and social resources. In their study, Hırtlak et al. (2017) aimed to determine the relationship between the quality of faculty life, academic self-efficacy and life satisfaction. The results of the study illustrated that there was a positive significant relationship between students' academic self-efficacy and life satisfaction levels.

While there are many studies investigated the academic self-efficacy of undergraduate students in the literature (Alemdağ, Erman, & Yilmaz, 2014; Azar, 2010; Çuhadar, Gündüz, & Tanyeri, 2013; Şeker, 2017), studies on the variables affecting the academic self-efficacy of Syrian refugee students have not been found. This research is very important in terms of the gap in the literature about refugees while encountering studies on academic self-efficacy and self-regulation skills (Garcia & Pintrich, 1996; Kayacan & Selvi, 2017; Aldan Karademir et al., 2018). Cortes and Buchanan (2007) stated that the common characteristics of six Colombian children who are not affected by the war and have a high resilience score are feelings of being individual, self-regulation, social bond, hope, and spiritual bond. In the light of these researches; it was concluded that there is a relationship between life satisfaction, perceived social support, resilience, self-regulation and academic self-efficacy.

Considering the similar studies in the literature, in this study, the effects of self-regulation and perceived social support on the academic self-efficacy, and mediating effects of resilience and life satisfaction in these relations in Syrian refugee students were examined. Based on the research findings in the literature, the purpose of this research is to examine the stated relationships with the path analysis model. For this purpose, the following research questions were answered in the analysis section.

1. What are the direct and indirect effects of perceived social support on academic self-efficacy for refugee students?
2. What are the direct and indirect effects of self-regulation on academic self-efficacy for refugee students?
3. What are the mediating effects of life satisfaction and resilience in the relations between academic self-efficacy and perceived social support, and self-regulation?

## 2. METHOD

### 2.1. Sample and Participants

The data were collected from Syrian undergraduate students attending a four-year program in universities in Turkey. The participants consisted of 365 students, and the students voluntarily participated in the study. The data were collected during the 2020 spring semester, and this process was completed in three weeks. The form consisted of 44 survey items in total and some demographic questions. There were 210 (55.1%) female and 171 (44.9%) male students. 321 (88%) students were single and 44 (12%) students were married. The ages of them ranged from 18 to 39, and the average age of participants was 21.9 with a standard deviation of 3.11. There were 173 freshmen (47.4%), 102 sophomore (28%), 34 junior (9.3%), and 56 senior (15.3%) students in the sample.

### 2.2. Measures

#### 2.2.1. Academic Self Efficacy (ASE)

The English version of the ASE survey was developed by Chemers, Hu, and Garcia. (2001), and adapted to the Arabic language by Almohazie (2018). The survey aims to measure students' academic self-efficacy and their beliefs on academic success. The original survey consisted of eight items but the translated version included nine items. Since we used the Arabic version, we administered nine items to all respondents. All items had seven response options from 1 = *Very untrue* to 7 = *Very true*. We grouped all survey items (e.g., 8 items), and calculated summated scores for each of the respondent. The Cronbach alpha value in the translated study was .92, and it was .91 in our study.

#### 2.2.2. Self-regulation

The English version of this survey was created by Velayutham, Aldridge, and Fraser (2011), and adapted to the Arabic language by Alzubaidi, Aldridge, and Khine (2016). The scale aims to measure students' four types of domains: *learning goal orientation*, *task values*, *self-efficacy*, and *self-regulation*. However, in this study, we only used the self-regulation subscale. In this subscale, there were eight items, and all items had five response options from 1 = *Never* to 5 = *Very much*. We grouped all self-regulation items (e.g., 8 items) then, calculated summated scores for each of the respondents. The Cronbach alpha value in the translated study was .85, and it was .85 in our study as well.

#### 2.2.3. Perceived Social Support Scale (PSSS)

The English version the PSSS was originally developed by Zimet, Dahlem, Zimet ve Farley (1988), and adapted to the Arabic language by Merhi and Kazarian (2012). The aim of the PSSS is to measure levels of social support that students receive from people around them. The survey is comprised of three subscales as *support from family*, *friends*, and *significant others* with four items in each subscale, and for a total of 12. All survey items had seven response options from 1 = *Definitely disagree* to 7 = *Definitely agree*. We calculated summated scores across the 12 items and obtained single PSSS scores (e.g., observed scores) for each of the students. In the adaptation study, the Cronbach alpha values were .82, .86 and .85, for the support from family, friends and significant others, respectively. In our study, they were .83, .88 and .89 for the three subscales, respectively.

#### 2.2.4. Satisfaction with Life Scale

The satisfaction with life survey (SWLS) was developed by Diener, Emmons, Larsen and Griffin (1985) to measure the pleasure of life students received from their life. The SWLS translated to Arabic by Abdallah (1998). The survey is comprised of a single dimension with five items in total. All survey items in the survey had seven response options from 1 = *Strongly*

*disagree* to 7 = *Strongly agree*. We calculated summated scores across the five items and obtained single *SWLS* scores (e.g., observed scores) for each of the respondents. In the adaptation study, the Cronbach alpha value was .79, and it was .83 in our study.

### 2.2.5. Conner-Davidson Resilience Scale (CD-RISC)

The English version of the CDRS-10 was developed by Conner and Davidson (2003) and adapted into Arabic by Elias (2016). The survey aims to measure the levels of coping with the students face after tragedy, or trauma. There are two versions of the same survey as CDRS-10 and CDRS-25. In this study, we used the one with 10 items. All survey items had five response options from 0 = Not true at all to 4 = True nearly all the time. The Cronbach alpha value as an internal consistency was .83 in both the adaptation study and our study. The scores of all items measuring were summed to calculate observed scores across all students.

### 2.3. Data Analysis

Based on the literature, firstly, we developed the theoretical path model given in [Figure 1](#). In this model, perceived social support and self-regulation are exogenous variables (e.g., no arrows pointing to them), academic self-efficacy is endogenous variable and life satisfaction and resilience are mediating variables between endogenous and exogenous variables. We hypothesized that there should be direct and indirect effects from the two exogenous variables to the endogenous variable, and the resilience and life satisfaction are mediating these effects.

However, due to encountering model fit problems in this model, we had to modify the hypothesized model by removing insignificant paths. Besides, looking at the modification indices, we added a path from life satisfaction to resilience. This new model was called as final path model (see [Figure 2](#)).

**Table 1.** Bivariate correlations, means and standard deviations amongst the observed variables

Variable	1	2	3	4	5
1. Academic Self-efficacy	--				
2. Self-regulation	.62*	--			
3. Perceived Social Support	.32*	.24*	--		
4. Life Satisfaction	.26*	.14*	.45*	--	
5. Resilience	.54*	.55*	.21*	.18*	--
<i>Mean</i>	42.19	28.40	59.02	19.66	
<i>Standard Deviation</i>	11.51	5.85	15.74	6.56	

\* $p < .05$

The bivariate correlations amongst all variables are given in [Table 1](#). We run both hypothesized and final models in Mplus software version 7 (Muthen & Muthen, 1998-2012), and used the bootstrap with 5000 iterations to obtain 90% confidence intervals for the effects. The sizes and 90% confidence intervals of total, direct and indirect effects of exogenous variables on endogenous variables are given in [Table 2](#).

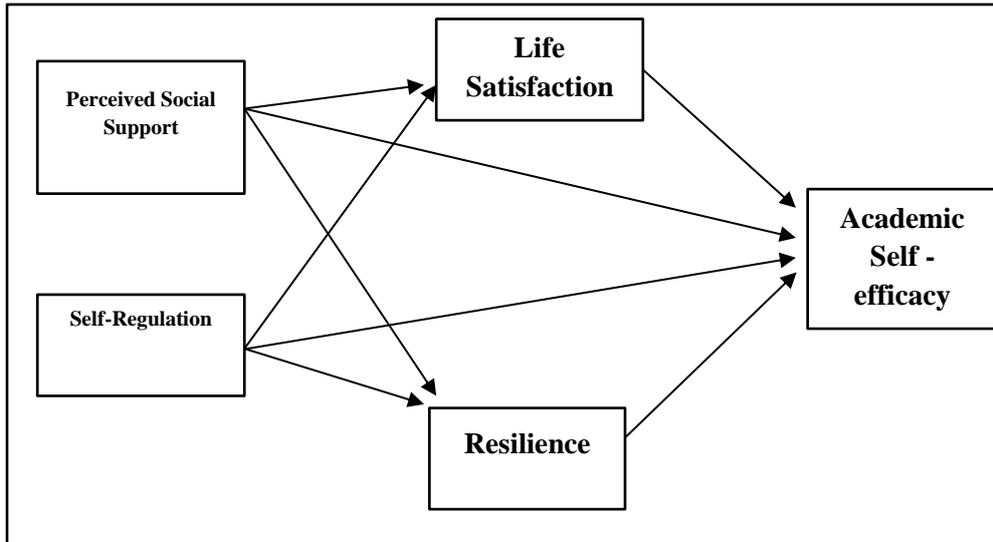


Figure 1. Hypothesized path model.

### 3. RESULT / FINDINGS

#### 3.1. Model Fit Results of Hypothesized Path Model

The model fit statistics for the hypothesized model given in Figure 1 were  $X^2(1)=3.44, p<.05$ , RMSEA=.09 with 90% CI[.00, .18], CFI=.99, TLI=.95, SRMR=.02. The chi-square and RMSEA statistics were somewhat unacceptable. Besides, the path from self-regulation to life satisfaction was insignificant. Therefore, we removed this path from the model and added a path from life satisfaction to resilience.

#### 3.2. Model Fit Results of Final Path Model

The model fit statistics for the final path model given in Figure 2 were  $X^2(2)=1.55, p>.05$ ,  $X^2/df=.77$ , RMSEA=.01 with 90% CI[.00, .09], CFI=1.00, TLI=1.00, SRMR=.01. These values indicated very good model fit.

#### 3.3. Results of Direct, Indirect and Total Effects

Self-regulation had a significant effect on academic self-efficacy with a total effect of 1.12. As given in Table 2, the .85 effect was direct and the .27 effect was indirect. The indirect effect was mediated through resilience. The total and direct effects were large and indirect effect medium in size.

Perceived social support had a significant effect on the academic self-efficacy with a total effect of .12. As given in Table 2, the .08 effect was direct and the .04 effect was indirect. There were two specific indirect effects as presented in Figure 2. These were a) from perceived social support to life satisfaction, from life satisfaction to academic self-efficacy ( $B=.03, p<.05$ ), and b) from perceived social support to life satisfaction, from life satisfaction to resilience, and from resilience to academic self-efficacy ( $B=.01, p<.05$ ). All specific indirect effects, direct effect and total effect were small in size but significant.

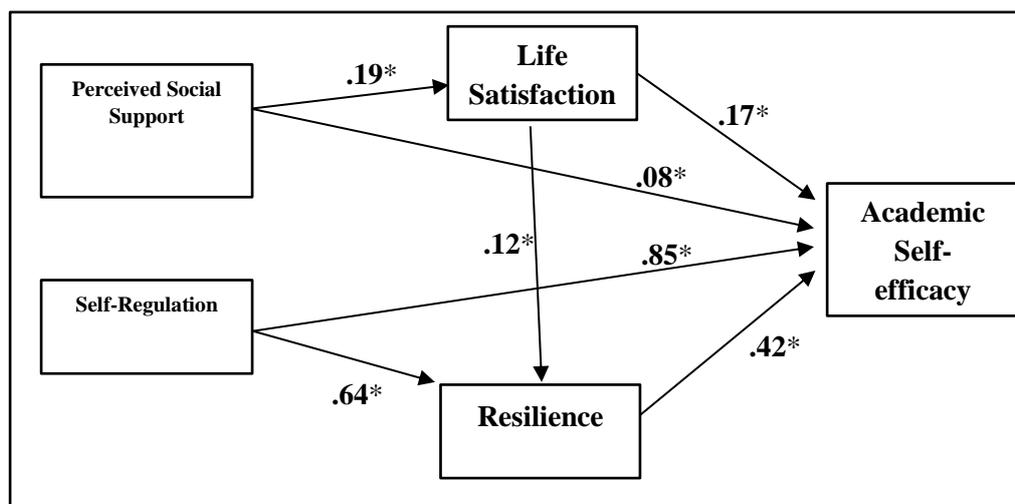
Life satisfaction had a significant effect on academic self-efficacy with a total of .22. As specified in Figure 2, the .17 effect is direct and the .05 effect is indirect. Therefore, both direct and indirect effects were small in size. The indirect effect was mediated through resilience. All effects were significant. Resilience had a significant effect on academic self-efficacy with a total of .42. Thus, the effect of resilience on academic self-efficacy was small to medium. As specified in Figure 2, this was an entirely direct effect, and there was no indirect effect of resilience on the academic self-efficacy.

**Table 2.** The Sizes and 90% Bootstrapping coefficients, Confidence Intervals for Total, Direct and Indirect Effects of Variables in The Selected Path Model

Endogenous Variables	Exogenous Variables			
	Self-Regulation	Perceived Social Support	Life Satisfaction	Resilience
Academic Self-efficacy	.85* [.70, 1.01]	.08* [.03,.14]	.17* [.04,.29]	.42* [.29,.55]
	.27* [.18, .35]	.04* [.01,.07]	.05* [.02,.08]	--
	1.12* [.98, 1.27]	.12* [.07,.18]	.22* [.08,.35]	.42* [.29,.55]
Self-regulation	--	--	--	--
	--	--	--	--
	--	--	--	--
Perceived Social Support	--	--	--	--
	--	--	--	--
	--	--	--	--
Life Satisfaction	--	.19* [.15,.22]	--	--
	--	--	--	--
	--	.19* [.15,.22]	--	--
Resilience	.64* [.55,.73]	--	.12* [.05,.18]	--
	--	.02* [.00,.03]	--	--
	.64* [.55,.73]	.02* [.00,.03]	.12* [.05,.18]	--

Note. Direct effects in regular text, total *indirect* effects in italics, total effects in bold. The symbol -- means the effect is not in the model; \* $p < .05$ ; all effects are unstandardized effects.

Self-regulation had a significant effect on resilience with a total effect of .64. This effect was the entirely indirect effect, and large in size. There was no direct effect from self-regulation to resilience. Perceived social support had a significant effect on resilience with a total effect of .02. This was entirely indirect and very small in size. There was no direct effect of perceived social support on resilience. Life satisfaction played a mediator role on this effect. Perceived social support had a significant effect on life satisfaction with a total effect of .19. This was entirely direct and small in size.

**Figure 2.** Final path model.

\* &lt; .05

#### **4. DISCUSSION and CONCLUSION**

In this study, the relationship between the variables of academic self-efficacy, resilience, perceived social support, life satisfaction and self-regulation and their direct and indirect effects on academic self-efficacy were investigated for Syrian refugee undergraduate students with the path analysis model. It was supported that the developed model is compatible with the data. The findings of the research showed that self-regulation, perceived social support and life satisfaction positively affected students' academic self-efficacy directly and indirectly. In other words, the level of academic self-efficacy was high for individuals who had higher levels of self-regulation skills, perceived social support, and life satisfaction.

According to the first finding of the research, self-regulation skill has direct and indirect effects on academic self-efficacy. In addition, the direct effect that predicted academic self-efficacy mostly is the effect of self-regulation ( $B = .85$ ). These findings support that there is a positive relationship from self-efficacy and self-regulation skills consistent with the literature (Garcia & Pintrich, 1996; Kayacan & Selvi, 2017; Aldan Karademir et al., 2018). Bandura (1997) states that self-regulation skills are needed for academic self-efficacy. Self-regulation is that students manage their own emotions, thoughts, and movements in accordance with the goals they want to achieve (Kayacan & Selvi, 2017; Zimmerman & Schunk, 1989). A student with high self-regulation skills can control his/her cognitive, affective, and psychomotor skills for the purposes he/she wants to achieve. This controllability results from the self-regulation skill, driven by an internal impulse. This skill provides an increase in academic self-efficacy from an academic point of view. As Zimmerman (1995) mentioned in the definition of academic self-efficacy, individuals should have the skills to plan and carry out the actions they need in the process of achieving an academic goal. Findings regarding the positive relationship between self-regulation skill and academic self-efficacy supports the definition of Zimmerman (1995).

There is also an indirect effect from self-regulation to academic self-efficacy. The indirect effect of self-regulation skill on academic self-efficacy sourced from the mediating effect of the resilience variable. Masten (2001) argues that resilience arises as a result of basic compliance systems working well and one of these basic systems is the self-regulation system. Cortes and Buchanan (2007) conducted a study in a war environment and as a result of their research, they stated that the common characteristics of the children who have higher levels of resilience are self-regulation, feeling of being individual, social bond, hope, and spiritual bond. The findings in the literature (Masten, 2001; Cortes & Buchanan, 2007; Keskin & Akça, 2019) also support the finding that self-regulation predicts resilience.

According to the second finding of the study, there is a positive effect directly and indirectly from perceived social support to academic self-efficacy. Perceived social support, the need of support after the problems experienced by the individual, how much he/she could overcome his/her problems with the support received and his/her expectations etc. relates to the perception of social support. The study of Deryahanoğlu et al. (2019), conducted to university students for analyzing academic self-efficacy and perceived social support levels, showed that there was no significant difference in academic self-efficacy scores according to the nationality status of the participants, but there was a significant difference in academic self-efficacy scores in the family and friends sub-dimension of social support. The findings of Deryahanoğlu et al. (2019) supports the current findings. Danielsen et al. (2009) investigated the effects of perceived social support on students' life satisfaction with the mediation of school satisfaction, scholastic competence, and self-efficacy. As a result of the research, it was found that the social support received from teachers was highly related to life satisfaction received from the school.

Life satisfaction and resilience are mediated in indirect effects from perceived social support variables to academic self-efficacy. The positive relationship between perceived social support and life satisfaction aligned with (Diener & Fujita, 1995; Danielsen et al., 2009). The increase

in perceived social support leads to an increase in the positive effect of life satisfaction on individuals. Diener and Fujita (1995) emphasize that the resources (family, close friendships, environment, etc.) used by the individual in establishing social relations are important in subjective well-being. They also state that individuals' satisfaction will be high if their goals are compatible with their individual and social resources.

Another mediator variable in indirect effects from perceived social support variable to academic self-efficacy is resilience. The finding of the positive relationship between perceived social support and resilience is supported by the related literature (Peltonen et al., 2014; Güney, 2016; Süleymanov et al., 2017; Gez, 2018).

According to the third finding of the study, there is a positive direct and indirect effects from the life satisfaction to academic self-efficacy. The life satisfaction also played mediating role between perceived social support and academic self-efficacy. This means that as the perceived social support increased, life satisfaction increased, and this led to increase in academic self-efficacy. The increase in life satisfaction also increased the level of resilience, and this increase led to increase in academic self-efficacy as well. This finding aligns with the results of the research conducted by Hırlak, Taşlıyan, Fidan and Güler (2017) and showed a positive relationship between students' academic self-efficacy and life satisfaction levels. Similarly, in the study of Danielsen et al. (2009), it was found that student' academic self-efficacy levels were related to their life satisfaction.

The findings of the research show that resilience is a positively related variable that directly affects academic self-efficacy. The positive relationship between resilience and academic self-efficacy is consistent with the findings of Turgut (2018). It can be seen in many studies in the literature that wars are the risk factors affecting the resilience (Hubbard et al., 1995; Masten & Coastworth, 1998; Peltonen et al., 2014; Pieloch et al., 2016; Demir & Aliyev, 2019). Chung et al. (2017) founded that more than half of the individuals have post-traumatic stress in their study on the refugees living in Turkey. All of these findings indicated the importance of resilience for the Syrian refugees studying in Turkey after the war.

According to Bandura (1997), factors affecting self-efficacy perception in individuals are direct experiences related to success, indirect experiences based on observation, verbal persuasion and psychological-physiological situations. These factors explain all the variables of life satisfaction, perceived social support, resilience and self-regulation; and the direct and indirect effects on academic self-efficacy. To sum up, the data fit with the chosen model perfectly. There is a positive relationship between academic self-efficacy and perceived social support, self-regulation, life satisfaction and resilience. Self-regulation, perceived social support and life satisfaction affect academic self-efficacy both directly and indirectly. Life satisfaction directly affects academic self-efficacy and also affects it with the mediation of resilience. There were also mediating effects of the resilience between self-regulation and academic self-efficacy; and between the perceived social support and academic self-efficacy. Moreover, there were mediating effects of the life satisfaction variable between perceived social support and academic self-efficacy. The highest direct effect is resulted from self-regulation, while the lowest direct effect is resulted from the perceived social support. The chosen path model shows that the variable that predicts academic self-efficacy mostly is the self-regulation variable.

The results of this study showed important recommendations or implications for university faculty and administrators. First, the study showed that Syrian students need to improve levels of self-regulations. Since this directly affected their academic self-efficacy, university consulting services should get involved in this step, and organize group or individual meetings with refugee students. The study also showed that perceived social support of students was important for raising academically successful students. Thus, the problems the students face in daily life such as language or communication problems should be minimized. In this context,

each refugee student can be matched with a Turkish peer, and help each other in school assignments and in daily life. This would also increase their life satisfaction and resilience and lead to increase academic self-efficacy.

The initial purpose of this study was to include student GPA as one of the endogenous variables. However, most of the students participated in the study were the first-year students. Since their GPA was not available at the time the data were collected, we could not include the GPA as the endogenous variable. A further study should examine the effects of studied variables on the GPA. Also, the study did not investigate the effects of demographic variables (e.g., gender, marital status, grade etc.) to the academic self-efficacy. However, these variables might have potential effects on it. Thus, a future study should be conducted with those demographic variables.

### Declaration of Conflicting Interests and Ethics

The authors declare no conflict of interest. This research study complies with research publishing ethics. The scientific and legal responsibility for manuscripts published in IJATE belongs to the author(s).

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