

## Comparison of Students with High Academic Achievement from Different Socio-economic Backgrounds in Turkey

Ömay Çokluk<sup>1</sup>, Emrah Gül<sup>2</sup> and Murat Kayri<sup>3\*</sup>

<sup>1</sup>*Department of Measurement and Evaluation, Faculty of Educational Sciences, Ankara University, Ankara, Turkey*

<sup>2</sup>*Department of Measurement and Evaluation, Faculty of Education, Hakkari University, Hakkari, Turkey*

<sup>3</sup>*Department of Computer Engineering, Faculty of Engineering, Mus Alparslan University, Mus, Turkey*

*E-mail: <sup>1</sup><cokluk@education.ankara.edu.tr>, <sup>2</sup><emrahgul@hakkari.edu.tr> <sup>3</sup><m.kayri@alparslan.edu.tr>*

**KEYWORDS** Academic Achievement. Academic Resilience. Disadvantaged Students. Socio-economic Background. TIMMS

**ABSTRACT** The research problem is comparative portrayals of qualities of students with high academic achievement levels, at economically disadvantaged and advantaged schools (in views of school administrators in the TIMMS-2011 data set, Turkey), in relation to socio-economic background and highlight on the potential relationship between achievements of disadvantaged students and academic resilience despite their poor conditions. The study group of the research that employs comparative survey methods consists of 520 students. When the research findings are holistically considered, it could be suggested that opportunities of economically advantaged and disadvantaged students with high academic achievement vary in terms of almost every indicator. When the fact that being socio-economically disadvantaged increases the risk of academic failure is considered, what is recalled here, as in this research, is that high academic achievement levels of students in insufficient conditions in many aspects could relate to academic resilience.

### INTRODUCTION

Turkey, when compared to lots of different countries in the world, is one of those countries where youth makes up a large number of the population. When demographics of Turkey are considered, it is clear that the age range of 0-14 year olds approximately makes up one-fourth (25.30%) of the whole population (Ataman-Erdönmez 2007). This case means Turkey has a high population of the school age youth. However, it is likely for individuals to face many difficulties from birth both in their family life and academic, social and societal life since the country has a relatively low wealth level, in other words, people have to lead their lives with certain economic restrictions. That means some people are naturally exposed to “failure” or are at least under the “risk of failure”. Being under a given risk entails the necessity of risk factor definitions because once the factors are clarified; one can then answer the following question: “Why are those people under such a risk?” Risk factors could be divided into two main categories: “biological” and “environmental”. Among biological factors, there are numerous factors from low birth

weight to malnourishment and poor medical care and to maternal drug addiction, related to both children and parents. Among the latter, there is poverty, parents’ educational background, family conflicts or maltreatment, abuse, violence, and negatory parental attitude towards children (Zolkoski and Bullock 2012). Driscoll (2006) states that resilience could also be considered as an outcome of the two factor group interaction. These are “personal traits” that correspond to biological factors and “external factors” (family connections, peer traits and teacher traits and so on) that correspond to environmental factors.

With a similar approach, Condly (2006) and Greenberg (2006) highlight one must be aware of the fact that resilience is an outcome of the interaction between risk factors and preventive factors at different levels and state that the factors are included in a comprehensive range from individual to environmental. In parallel to the above mentioned classifications, these factors are listed as follows: personal (personality characteristics, talents and skills), social (support from family, peers and mutual relationships) and societal factors (society, school environment, cultural norms, organizational support and some other external supports) (Condly 2006; Greenberg 2006). Gizir and Aydin (2013) examined the influ-

\*Corresponding author

ential factors on academic resilience and according to the research results with 7<sup>th</sup> graders, it was concluded that personal academic competencies concerning students' academic resilience were affected by higher education expectancies, internal control focus and future hopes.

In a study, Rojas and Lusía (2015) attempted to reveal the influential factors on academic resilience in different familial and environmental conditions. In Bogotá, Colombia district, a case study was conducted with six students from a school in which poverty and social problems were experienced. It was highlighted that students with academic resilience were supported and protected by their families more and parents guided them. Besides, optimism, determination and motivation were concluded as personal factors of academic resilience.

In the TIMSS (2015) report, it was emphasized that academic resilience was particularly important for education policies and politicians needed to be well aware of the influential factors involved (Erberber et al. 2015).

Yavuz (2015) attempted to determine predicting variables of resilience in high school students (grade 12) with high academic resilience. As a result of the study, it was concluded that cognitive flexibility and perceived social support were found significant predicting variables of high academic resilience, whereas gender and school attachment were not.

It is not wrong to think that birth into a socio-economically disadvantaged family will put children at risks and make them disadvantaged in many aspects. This case brings potential problems such as bringing children up in a family atmosphere in which there are more chaotic situations with less stimuli and low quality schools in their academic life. Therefore, disadvantaged children keep facing certain biological, psychological, educational and social problems in almost every aspect of daily life, as a result of the negative conditions they live in. Breaking this vicious circle is not always easy or possible and it is closely associated with whether particular talents, skills and coping strategies will develop.

Since the content of the study requires an emphasis on educational/academic issues, being disadvantaged will lead to particular negative outcomes such as "low academic achievement", "early school drop outs" and "early starts in business (child labour). Adverse results in educational or academic life are not really unpre-

dictable but what's noteworthy here at this point is why the aforementioned conditions lead every student to negative outcomes. Why do students who are exposed to the same disadvantaged conditions or insufficiencies, not have similar educational experiences or academic achievement levels? There is a group of students who continue their education with success, similar to economically advantaged peers and who occasionally attain higher academic achievements than their peers despite all disadvantages and hindering influences of conditions. What's more, such success stories are not limited to indicators in their own countries and are included in the top capacity lists of international comparisons and assessments. It is exactly this difference which makes students have "high academic resilience" or briefly "academically resilient" ones (Khalaf 2014). The term "academic resilience" has recently been recalled because of the fact that economically advantaged and disadvantaged students are similar in academic achievement.

Generally speaking, the term resilience is used to define flexible things with a good capacity of adaptation to environmental conditions. Resilience is closely associated with qualities such as "strength", "endurance", and "robustness". When considered in individualistic terms, it is defined as a distinguishing feature that helps to discriminate between those who can survive under any challenges and those who cannot. In other words, it is the withstanding adaptation skill to challenging, disadvantaged, adverse life events (Olsson et al. 2003).

There is a variety of definitions of resilience in the literature. For instance, Brooks (2006) defines the term as leading a successful life better than expected despite risks of facing serious difficulties in life beyond average. Sarwar et al. (2010) defines resilience as a skill to overcome stress and rally and successful adaptation to or a challenging and threatening situations/environment. As a result, while resilience could be merely used to describe those who have to overcome difficulties to achieve things or become competent, it is impossible to characterise people with positive outcomes or achievements without having to overcome any obstacles to attain these or become competent in the same way (Driscoll 2006). Additionally, Condly (2006) states that resilience cannot be expressed as an "all or nothing" action and that it is better to explain it

in continuous terms instead of such dichotomous statements. In other words, the following approach is not favourable: one is either resilient or not in all or any conditions. Henderson and Milstein (1996) highlight that resilience could increase or decrease at different times and people display resilience against certain types of difficulties, whereas they may not demonstrate the same amount of resilience against some other challenges (Rutter 2007). Similarly, Zimmerman and Arunkumar (1994) suggest that resilience is not a fixed personal characteristic, but however the term resilience is defined, existential “risks” are critical concepts (Fergus and Zimmerman 2005). That resilience building is associated with existential risks.

In the literature, the term is called “psychological resilience”, “affective resilience”, and “academic resilience” and so on. It is suggested that resilience in general is a quality that helps one succeed in academic world despite all obstacles that hamper achievement although the term “academic resilience” is examined in this study (Benard 1991). Resilience is a feature that helps students to cope with academic setbacks, stress and pressure caused by studies in learning process more successfully (Sarwar et al. 2010).

Academic resilience is used to define students with high academic achievement levels from disadvantaged backgrounds or conditions by OECD (2011). Here is the answer to the following question: “Who are resilient students?” “Resilient students come from a disadvantaged socio-economic background, relative to students in their country, and attain high scores by international standards”.

Besides the above mentioned explanations, what causes disadvantaged students with high academic achievement levels to become successful have not been discussed properly, whereas factors that lead to failure or variables to explain such failure have extremely been argued. However, it is known that studies on academically resilient students have the potential to help education policy makers and other shareholders with the issue of increasing academic achievement levels of disadvantaged students. In other words, it is emphasised here that the findings obtained from the study could be used to design various state policies to surmount the difficulties of disadvantaged groups (Oral and Dinçer 2013). In the light of these explanations and jus-

tifications, the research problem is comparative portrayals of qualities of students with high academic achievement levels at economically disadvantaged (low socio-economic background) and economically advantaged (high socio-economic background) schools (in views of school administrators in the TIMMS-2011 data set, Turkey), in relation to socio-economic background. In other words, the research attempts to reveal conditions that advantaged and disadvantaged students with high academic achievement levels live in (student opportunities and family opportunities) and to point out to the fact that achievements of disadvantaged students could be related to academic resilience despite insufficient conditions of schools. In accordance with the research problem, answer to the following question was sought after: Do the following have dependent relationships with students’ socio-economic backgrounds?

1. The number of books at home,
2. Home computers,
3. Ownership of study desk at home,
4. Book ownership at home,
5. Private room ownership at home,
6. Internet access at home,
7. Maternal educational level,
8. Paternal educational level,
9. Highest level of education expected,
10. Frequency of out of home computer use,
11. Frequency of parental examination of what is taught at school,
12. Frequency of school related talks with parents,
13. Frequency of parental control over time allotted to homework,
14. Frequency of parental control over homework.

## METHODOLOGY

“Comparative survey methods” were employed for the study that attempted to reveal comparative portrayals of qualities which were considered in association with socio-economic backgrounds of students with high academic achievement at economically disadvantaged (low socio-economic background) and economically advantaged (high socio-economic background) schools in views of school administrators in the TIMMS-2011 data set, Turkey.

### Data

The TIMMS-2011, Turkey data set was used for the study. The data were downloaded from TIMSS website which was followed by a study of student selection to be included in the study. The steps of student selection were as follows:

1. First of all, economically disadvantaged schools (low socio-economic background) and economically advantaged schools (high socio-economic background) were chosen for comparison. In this context, the schools which were considered as economically disadvantaged were the schools for which school administrators stated that “at least (50%) of the students came from economically disadvantaged families (low socio-economic background)”, and “(10%) in economically advantaged conditions (high socio-economic background)”. Economically advantaged schools were those where school administrators asserted that “at least (50%) of the students lived in economically advantaged conditions (high socio-economic background), whereas 10 in economically disadvantaged conditions (low socio-economic background)”.

2. At the second step, students with “high academic achievement” at economically advantaged and disadvantaged schools were chosen. To this end, medians of five different science scores of students and that of five different math scores were calculated. Scores of 550 and above (level 5 or 6) in one of the medians were taken as “high academic achievement” and included in the study group. In fact, what was sought after here was the student group in economically disadvantaged conditions with high academic achievement and “high academic resilience” or briefly, the “academically resilient” group was targeted. The other group consisted of the advantaged ones who were unlikely to be considered as academically resilient. The reason why they were included in the study was a prospective comparison with the academically resilient students.

In the data set, a total of 520 students who simultaneously met the above mentioned conditions were included. Distribution of socio-economic backgrounds of the students in the study group and gender is presented in Table 1.

When Table 1 is examined, it is seen that a total of 90 students are in the economically advantaged group: 50 (55.60%) female; and 40 (44.40%) male. The students form 17.30 percent of the entire group. There are a total of 430 students in the economically disadvantaged group: 285 (54.80%) female, 195 (45.30%) male. These students form 82.70 percent of the group.

### Data Analysis

The survey questions included in the TIMMS-2011 data set were examined, the authors

**Table 1: Distribution of socio-economic background and gender of the study group**

Socio-economic background		Gender		Total
		Female	Male	
Advantaged	N	50	40	90
	%	55.60	44.40	17.30
Disadvantaged	N	235	195	430
	%	54.70	45.30	82.70
Total	N	285	235	520
	%	54.80	45.20	100.00

\*In the study, medians were calculated instead of arithmetical means of student scores as median is not influenced by extreme values and thus is largely preferred in the literature instead of the mean.

defined variables that could associate with socio-economic backgrounds or that could indicate socio-economic backgrounds and then three measurement and evaluation experts were consulted about those variables. Pursuant to school selection in views of schools administrators, the following student/family variables as the indicators of socio-economic backgrounds were listed: The Number of Books at home, Home Computers, Ownership of Study Desk at home, Book Ownership at home, Private Room Ownership at home, Internet access at home, Maternal Educational Level, Paternal Educational Level, Highest Level of Education Expected, Frequency of out of Home Computer Use, Frequency of Parental Examination of What is Taught at School, Frequency of School Related Talks with Parents, Frequency of Parental Control over Time Allotted to Homework, Frequency of Parental Control over Homework. Chi square test was separately applied to each variable to see whether they had dependent relationships to socio-economic background.

## RESULTS AND DISCUSSION

In this part, qualities of economically disadvantaged (low socio-economic background) students with high academic resilience that were considered to associate with socio-economic background were compared to those of the economically advantaged students in accordance with sub-problems and the findings were given as in the order of sub-problem list.

Dependent relationship between students' socio-economic backgrounds and the number of books at home is presented in Table 2.

When Table 2 is examined, it is clear that there is a significant correlation between socio-economic background and the number of books at home [ $\chi^2=134.670$ ,  $df=4$ ,  $p<.00$ ]. As a result, 76.70 percent of the students included in the economically advantaged group have 100 or more books at home while 80.70 percent of the students included in the economically disadvantaged group have less than 100 books. Moreover, the findings of Dimitra (2011) supported our study's findings.

Dependent relationship between students' socio-economic backgrounds and home computers is presented in Table 3.

**Table 3: Dependent relationship between students' socio-economic backgrounds and home computers**

Socio-economic background	Home computer		Total	
	Yes	No		
Advantaged	N	84	60	90
	%	93.30	6.70	17.30
Disadvantaged	N	238	191	429
	%	55.50	44.50	82.70
Total	N	322	197	519
	%	62.00	38.00	100.00

$\chi^2=32.751$ ,  $sd=1$ ,  $p<.00$

When Table 3 is examined, it is obvious that there is a significant correlation between socio-economic background and home computer ownership [ $\chi^2=32.751$ ,  $df=1$ ,  $p<.00$ ]. As a result, 93.30 percent of the students included in the economically advantaged group have PCs while only 55.50 percent of those included in the economically disadvantaged group have home computers. In other words, almost all the students in the economically advantaged group have home

**Table 2: Dependent relationship between students' socio-economic backgrounds and the number of books at home**

Socio-economic background	The number of books at home					Total	
	1-10	11-25	26-100	101-200	201 and above		
Advantaged	N	0	5	16	33	36	90
	%	0.00	5.60	17.80	36.70	40.00	17.30
Disadvantaged	N	53	159	135	57	26	430
	%	12.30	37.00	31.40	13.30	6.00	82.70
Total	N	53	164	151	90	62	520
	%	10.20	31.50	29.00	17.30	11.90	100.00

$c^2=134.670$ ,  $df=4$ ,  $p<.00$

computers whereas nearly half of the students in the economically disadvantaged group have PCs. As it is seen, the economically disadvantaged students have high chances of achievement although they do not have the opportunity to access home computers anytime and thus use computers for academic studies (getting ready for courses, doing research and homework and so on). Several studies has underlined that there is a significant correlation between socio-economic background and home computer ownership (Carroll et al. 2005; Piette 2002; Safran 2003).

Dependent relationship between students' socio-economic backgrounds and ownership of study desk at home is presented in Table 4.

**Table 4: Dependent relationship between Students' socio-economic backgrounds and ownership of study desk at home**

Socio-economic background	Ownership of study desk at home		Total	
	Yes	No		
Advantaged	N	88	2	90
	%	97.80	2.20	17.30
Disadvantaged	N	294	135	429
	%	68.50	31.50	82.70
Total	N	382	137	519
	%	73.60	26.40	100.00

$\chi^2=45.269$ ,  $df=1$ ,  $p<.00$

When Table 4 is examined, it is clear that there is a significant correlation between socio-economic background and ownership of study desk at home [ $\chi^2=45.269$ ,  $df=1$ ,  $p<.00$ ]. As a result, 97.80 percent of the students included in the economically advantaged group have study desks at home while 68.50 percent of the eco-



nominally disadvantaged students have home computers. In other words, almost all the students in the economically advantaged group have study desks at home. On the other hand, it is seen that all the economically disadvantaged students do not have the same opportunities (Kanevsky et al. 2008; Yvette 2013). It is doubtful that the economically disadvantaged students who have stated they have study desks at home really have study desks that belong to them. When living conditions in Turkey are considered, the students might have perceived that “any desk at home to study” and answered the question with that perception in mind. In other words, the students might study at dinner table and state there is a study desk.

Dependent relationship between students’ socio-economic backgrounds and book ownership at home is presented in Table 5.

**Table 5: Dependent relationship between students’ socio-economic backgrounds and book ownership at home**

<i>Socio-economic background</i>		<i>Book ownership at home</i>		<i>Total</i>
		<i>Yes</i>	<i>No</i>	
<i>Advantaged</i>	N	90	0	90
	%	100.00	0.00	17.30
<i>Disadvantaged</i>	N	397	32	429
	%	92.50	7.50	82.70
<i>Total</i>	N	487	32	519
	%	93.80	6.20	100.00

$\chi^2=7.154$ ,  $df=1$ ,  $p<.00$

When Table 5 is examined, the correlation between socio-economic background and book ownership at home appears significant [ $\chi^2=7.154$ ,  $df=1$ ,  $p<.00$ ]. As a result, all the students included in the economically advantaged group (100.00%) have stated they have their own books at home while 7.50 percent of those included in the economically disadvantaged group do not have such opportunities. When economically disadvantaged students are asked about book ownership at home, they may recall “course books”. Content of the mentioned books or students’ perceptions in this question remain unknown. The findings of Dimitra (2011) also supported this study’s findings.

Dependent relationship between students’ socio-economic backgrounds and private room ownership at home is presented in Table 6.

**Table 6: Dependent relationship between students’ socio-economic backgrounds and private room ownership at home**

<i>Socio-economic background</i>		<i>Private room ownership at home</i>		<i>Total</i>
		<i>Yes</i>	<i>No</i>	
<i>Advantaged</i>	N	79	11	90
	%	87.80	12.20	17.40
<i>Disadvantaged</i>	N	216	212	428
	%	50.50	49.50	82.60
<i>Total</i>	N	295	223	518
	%	56.90	43.10	100.00

$\chi^2=42.223$ ,  $df=1$ ,  $p<.00$

When Table 6 is examined, it is clear that there is a significant correlation between socio-economic background and private room ownership at home [ $\chi^2=42.223$ ,  $df=1$ ,  $p<.00$ ]. As a result, 87.80 percent of the students included in the economically advantaged group have stated they have private rooms at home whereas 50.50 percent of those included in the economically disadvantaged group seem to have the same opportunities. It is unknown for nearly half of the students in the economically disadvantaged group whether they share rooms with family members (for example, siblings) although they state they have private rooms at home. When the fact that economically disadvantaged families in Turkey have insufficient domestic conditions (small apartments with a few rooms in general), and that they have large families (especially the number of children is high) is considered, rooms that are called private by students are like “kid’s rooms” and they are actually shared by all children in the family. It is even unlikely to suggest such a sharing is restricted to siblings. In their study, Preeti and Garima (2015) have investigated the relationship between socio-economic status and home environment and they have found a significance correlation between academic achievement and home environment.

Dependent relationship between students’ socio-economic backgrounds and Internet access at home is presented in Table 7.

When Table 7 is examined, it is obvious that there is a significant correlation between socio-economic background and Internet access at home [ $\chi^2=61.725$ ,  $df=1$ ,  $p<.00$ ]. As a result, 86.70 percent of the students included in the economically advantaged group have Internet access at home whereas (41.10%) of those in the economically disadvantaged group seem to have such

**Table 7: Dependent relationship between students' socio-economic backgrounds and internet access at home**

<i>Socio-economic background</i>		<i>Internet access at home</i>		<i>Total</i>
		<i>Yes</i>	<i>No</i>	
<i>Advantaged</i>	N	78	12	90
	%	86.70	13.30	17.40
<i>Disadvantaged</i>	N	176	252	428
	%	41.10	58.90	82.60
<i>Total</i>	N	254	264	518
	%	49.00	51.00	100.00

$\chi^2=61.725$ ,  $df=1$ ,  $p<.00$

opportunities. In other words, more than half of the students in the latter group do not have Internet access at home. In the literature, several studies found similar findings (Mascheroni and Olafsson 2015; Sozio et al. 2015).

Dependent relationship between students' socio-economic backgrounds and maternal educational levels is presented in Table 8. 11 students who stated they did not know their mother's educational levels (or marked "I do not know" option) were excluded by the researchers before the performance of the analysis. Total number of students in the analysis was 507 as two students were defined as missing value in the downloaded data.

When Table 8 is examined, it is seen that there is a significant correlation between socio-economic background and maternal educational level

[ $\chi^2=185.211$ ,  $df=5$ ,  $p<.00$ ]. As a result, 45.40 percent of the students included in the economically advantaged group have mothers with undergraduate or graduate degrees whereas only 2.80 percent of the students included in the economically disadvantaged group have mothers with undergraduate or graduate degrees. The most striking finding in the table is 76.20 percent of the students included in the economically disadvantaged group have non-educated, illiterate or literate mothers without a diploma. According to the study of Richles et al. (2013), the findings of this study underlined that maternal education contributed the greatest amount of variance in academic achievement.

Dependent relationship between students' socio-economic backgrounds and paternal educational levels is presented in Table 9. As in the above mentioned analysis, 9 students who stated they did not know their father's educational levels (or marked "I do not know" option) were excluded by the researchers before the performance of the analysis. Total number of students in the analysis was 510 as one of the students was defined as missing value in the data.

When Table 9 is examined, it is seen that there is a significant correlation between socio-economic background and paternal educational level [ $\chi^2=158.944$ ,  $df=5$ ,  $p<.00$ ]. As a result, 63.20 percent of the students included in the economically advantaged group have fathers with undergraduate or graduate degrees whereas only

**Table 8: Dependent relationship between students' socio-economic backgrounds and maternal educational levels**

<i>Socio-economic background</i>		<i>Maternal educational levels</i>						<i>Total</i>
		<i>Illiterate or uncertified illiterate (Primary education first stage level 0 or 1)</i>	<i>Primary education second stage (Secondary school) (Level 2)</i>	<i>Upper secondary education (High school) (Level 3)</i>	<i>Vocational /Technical higher education (Level 5B)</i>	<i>General higher education programs (Level 5A)</i>	<i>Master programs</i>	
<i>Advantaged</i>	N	161	10	21	4	25	10	86
	%	8.60	11.60	24.40	4.70	29.10	11.60	17.00
<i>Disadvantaged</i>	N	321	40	48	6	5	1	421
	%	76.20	9.50	11.40	1.40	1.20	0.20	83.00
<i>Total</i>	N	337	50	69	10	30	11	507
	%	66.50	9.90	13.60	2.00	5.90	2.20	100.00

$\chi^2=185.211$ ,  $df=5$ ,  $p<.00$

**Table 9: Dependent relationship between students' socio-economic backgrounds and paternal educational levels**

Socio-economic background	Maternal educational levels							Total
	Illiterate or uncertified illiterate (Primary education first stage level 0 or 1)	Primary education second stage (Secondary school) (Level 2)	Upper secondary education (High school) (Level 3)	Vocational /Technical higher education (Level 5B)	General higher education programs (Level 5A)	Master programs		
Advantaged	N	8	2	22	9	28	18	87
	%	9.20	2.30	25.30	10.30	32.20	20.70	17.10
Disadvantaged	N	203	65	110	19	22	4	423
	%	48.00	15.40	26.00	4.50	5.20	0.90	82.90
Total	N	211	67	132	28	50	22	510
	%	41.40	13.10	25.90	5.50	9.80	4.30	100.00

$\chi^2=158.944$ ,  $df=5$ ,  $p<.00$

10.60 percent of the students included in the economically disadvantaged group have fathers with undergraduate or graduate degrees. In parallel to the findings of maternal educational level, what is remarkable in the table is almost half of the students (48.00%) included in the economically disadvantaged group have non-educated, illiterate or literate fathers without a diploma. In the literature, several studies have shown the contribution of paternal education level on academic achievement. In other words, according to the findings of the several studies, there is a significant correlation between socio-economic background and paternal education level (Ansem et al. 2014; Richles et al. 2013)

When the findings of parental educational levels are holistically considered, it wouldn't be

wrong to assume that families of economically disadvantaged children do not help with or contribute to homework. When the fact that parental educational levels are too low or some parents are even illiterate in economically disadvantaged families is considered, it is obvious that those parents could hardly contribute to children's education. Despite this, these students have high academic achievement.

Dependent relationship between students' socio-economic backgrounds and the highest level of education expected is presented in Table 10. 12 students who had no idea about the highest education level expected were excluded during the performance of the analysis and total number of students in the analysis was 507 as one student was defined as missing value in the

**Table 10: Dependent relationship between students' socio-economic backgrounds and highest level of education expected**

Socio-economic background	Highest level of education expected						Total
	Primary education second stage (Secondary school) (Level 2)	Upper secondary education (High school) (Level 3)	Vocational/ Technical higher education (Level 5B)	General higher education programs (Level 5A)	Master programs		
Advantaged	N	-	-	2	20	66	88
	%	-	-	2.30	22.70	75.00	17.40
Disadvantaged	N	1	5	7	200	206	419
	%	0.20	1.20	1.70	47.70	49.20	82.60
Total	N	1	5	9	220	272	507
	%	0.20	1.00	1.80	43.40	53.60	100.00



data. It is clear in Table 10 that dependent relationship between socio-economic background and the highest level of education expected was not examined as the expected value was lower than 5 and the number of cells was greater than 20 percent of the total number of cells. Therefore, merely the cross table is presented. It could be suggested that almost all of the students included in both economically advantaged and disadvantaged groups expect undergraduate or graduate degrees. The finding might probably be the most significant indicator of resilience because there is no difference between expectations no matter what conditions are. On the other hand, this finding could be interpreted in association with living conditions in Turkey. Although they are students with high academic achievement, the following should be concerned; when the high rate of unemployment in Turkey is considered, every student, successful or not, would like to graduate from university in order to get a job. One can think that expectations of these students are natural and reasonable as they are successful, but the authors think a similar finding would be obtained even if this was not the case.

Dependent relationship between students' socio-economic backgrounds and frequency of out of home computer use is presented in Table 11.

When Table 11 is examined, it is clear that the correlation between socio-economic background and frequency of out of home computer use is not significant [ $\chi^2=2.421$ ,  $df=3$ ,  $p>.05$ ].

It is also concluded that dependent relationships between socio-economic background and the following variables of the study are not significant; "Frequency of parental examination of

what is taught at school [ $\chi^2=1.562$ ,  $sd=3$ ,  $p>.05$ ]", "Frequency of school related talks with parents [ $\chi^2=0.677$   $sd=3$ ,  $p>.05$ ]", "Frequency of parental control over time allotted to homework [ $\chi^2=2.118$ ,  $sd=3$ ,  $p>.05$ ]", "Frequency of parental control over homework [ $\chi^2=0.948$ ,  $sd=3$ ,  $p>.05$ ]".

## CONCLUSION

When the research findings are holistically considered, it could be suggested that opportunities of economically advantaged and disadvantaged students with high academic achievement (level 5 and 6) vary in terms of almost every indicator. When the fact that being socio-economically disadvantaged increases the risk of academic failure or that failure is more likely for economically disadvantaged students is considered, what is recalled here, as in this research, is that high academic achievement levels of students in insufficient conditions in many aspects could relate to academic resilience. As academic resilience is defined as a significant quality that brings achievement despite negative conditions, it could largely explain high academic achievement in countries, particularly like Turkey, where the level of wealth of the majority is low. However, empirical measurements of academic resilience, use of research designs that could show cause and effect relations and advanced statistical analyses are needed to verify and explain this. It is sensible to recall the research solely attempts to point out the huge gap between conditions although such a research design does not allow such an explanation. The findings evidently reveal how much conditions of economically advantaged and disadvantaged students included in high academic competency in terms of academic achievement vary. For this reason, it is

**Table 11: Dependent relationship between students' socio-economic backgrounds and frequency of out of home computer use**

<i>Socio-economic background</i>		<i>Frequency of out of home computer use</i>				<i>Total</i>
		<i>Every day</i>	<i>Once or twice a week</i>	<i>Once a month</i>	<i>Almost never</i>	
<i>Advantaged</i>	N	7	16	22	36	81
	%	8.60	19.80	27.20	44.40	17.10
<i>Disadvantaged</i>	N	19	88	122	165	394
	%	4.80	22.30	31.00	41.90	82.90
<i>Total</i>	N	26	104	144	201	475
	%	5.50	21.90	30.30	42.30	100.00

$\chi^2=2.421$ ,  $df=3$ ,  $p>.05$

essential to include questions about academic resilience level measurements of students besides questionnaires applied to gather data on student, family, school qualities and so on, particularly in broad scale studies which have international comparisons. Moreover, increasing the number of such studies will be beneficial to develop various strategies for elevating academic resilience levels and help students to internalise and employ these strategies as it will raise awareness about the significance of student academic resilience in educators, applicators and parents.

### RECOMMENDATIONS

According to the results of this research, academic resilience, in particular how important it is for education policy and suggested that politicians should know the factors affecting this concept. By this way, teacher educators and politicians should consider the effects of socio-economic background and they should realize the national programme for future. Moreover, increasing the number of such studies will be beneficial to develop various strategies for elevating academic resilience levels and help students to internalise and employ these strategies as it will raise awareness about the significance of student academic resilience in educators, applicators and parents.

### REFERENCES

- Ansem WJC, Schrijvers CTM, Rodenburg G, Mheen D 2014. Maternal educational level and children's healthy eating behaviour: Role of the home food environment (cross-sectional results from the IN-PACT study). *International Journal of Behavioral Nutrition and Physical Activity*, 11: 113-125.
- Ataman EP 2007. Küresel demografik degisim süreci ve finansal sektör üzerindeki etkileri. *Bankacilar Dergisi*, 62: 59-70.
- Benard B 1991. *Fostering Resiliency in Kids: Protective Factors in the Family, School, and Community*. Portland, OR: Western Center for Drug-Free Schools and Communities.
- Brooks JE 2006. Strengthening resilience in children and youths: Maximizing opportunities in the schools. *Children and Schools*, 282: 69-76.
- Carroll AE, Rivara FP, Ebel B, Zimmerman FJ, Christakis DA 2005. Household computer and Internet access: The digital divide in a pediatric clinic population. *AMA Annual Symposium Proceedings*, 2005: 111-115.
- Condly S 2006. Resilience in children: A review of literature with implications for education. *Urban Education*, 413: 211-236.
- Dimitra H 2011. Families' social backgrounds matter: Socio-economic factors, home learning and young children's language, literacy and social outcomes. *British Education Research Journal*, 37(6): 893-914.
- Driscoll AK 2006. Academic Resilience among Low SES High School Students. From <<http://paa2006.princeton.edu/papers/61572>> (Retrieved on 25 February 2016).
- Erberber E, Stephens M, Mamedova S, Ferguson S, Kroeger T 2015. Socio-economically Disadvantaged Students Who Are Academically Successful: Examining Academic Resilience Cross-Nationally. *Policy Brief No. 5 International Association for the Evaluation of Educational Achievement, TIMSS*, Amsterdam, Netherlands.
- Fergus S, Zimmerman MA 2005. Adolescent resilience: A framework for understanding healthy development in the face of risk. *Annual Review of Public Health*, 26: 399-419.
- Gizir CA, Aydin G 2013. Protective factors contributing to the academic resilience of students living in poverty in Turkey. *Professional School Counseling*, 13(1): 38-49.
- Greenberg MT 2006. Promoting resilience in children and youth: Preventative interventions and their interface with neuroscience. *Annals New York Academy of Sciences*, 1094: 139-150.
- Henderson N, Milstein MM 1996. *Resiliency in Schools: Making it Happen for Students and Educators*. Thousand Oaks, California: Corwin Press.
- Kanevsky L, Corke M, Frangkiser L 2008. The academic resilience and psychosocial characteristics of inner-city English learners in a museum-based school program. *Education and Urban Society*, 404: 452-475.
- Khalaf MA 2014. Validity and reliability of the academic resilience scale in Egyptian context. *US-China Education Review B*, 43: 202-210.
- Mascheroni G, Olafsson K 2015. The mobile Internet: Access, use, opportunities and divides among European children. *New Media & Society*, 17(11): 1-23.
- OECD 2011. How do Some Students Overcome Their Socio-economic Background? From <<http://www.oecd.org/pisa/pisaproducts/pisainfocus/48165173.pdf>> (Retrieved on 3 October 2015).
- Olsson CA, Bond L, Burns JM, Vella-Brodrick DA, Sawyer SM 2003. Adolescent resilience: A concept analysis. *Journal of Adolescence*, 26: 1-11.
- Oral I, Dinçer MA 2013. Türkiye'de Devlet Liselerinde Akademik Dirençlilik Profili: PISA 2009 Türkiye Verisinin Analizi. Eğitim Reformu Girişimi-ERG, Araştırma Raporu. From <[http://erg.sabanciuniv.edu/sites/erg.sabanciuniv.edu/files/Akademik\\_Dirençlilik\\_Profili.pdf](http://erg.sabanciuniv.edu/sites/erg.sabanciuniv.edu/files/Akademik_Dirençlilik_Profili.pdf)> (Retrieved on 15 August 2015).
- Sozio ME, Ponte C, Sampaio IV, Senne F, Olafsson K, Alves SJ, Garroux C 2015. Children and internet use: A comparative analysis of Brazil and seven European countries. *EU Kids Online*, 1: 1-19.
- Piette JD 2002. Enhancing support via interactive technologies. *Curr Diab Rep*, 2(2): 160-165.
- Pretti S, Garima C 2015. Impact of socio-economic status on academic-achievement of school students:

- An investigation. *International Journal of Applied Research*, 1(4): 266-272.
- Richles CG, Johnson KN, Walden TA, Conture EG 2013. The relation of socio-economic status and parent education on the vocabulary and language skills of children who do and do not stutter. *J Commun Disord*, 46(4): 361-374.
- Rojas F, Luisa F 2015. Factors affecting academic resilience in middle school students: A case study (Factores que Afectan la Resiliencia Académica en Estudiantes de Bachillerato) *GIST Education and Learning Research Journal*, 11: 63-78.
- Rutter M 2007. Resilience, competence and coping. *Child Abuse and Neglect*, 31(3): 205-209.
- Safran C 2003. The collaborative edge: Patient empowerment for vulnerable populations. *Int J Med Inf*, 69(2-3): 185-90.
- Sarwar M, Inamullah H, Khan N, Anwar N 2010. Resilience and academic achievement of male and female secondary level students in Pakistan. *Journal of College Teaching & Learning*, 7(8):19-24.
- Yavuz Ç 2015. *Investigation of the Factors Affecting Economically Disadvantaged Senior High School Students' Academic Resilience*. Master's Thesis, Unpublished. Ankara: Ankara University.
- Yvette PF 2013. *The Relationship Between Socio-economic Status and the Academic Achievement of Culturally Diverse Students*. Dissertations, Theses and Capstone Projects. Kennesaw, GA: Kennesaw State University.
- Zolkoski SM, Bullock LM 2012. Resilience in children and youth: A review. *Children and Youth Services Review*, 34: 2295-2303.

---

**Paper received for publication on December 2015**  
**Paper accepted for publication on April 2016**