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Research Article

## The Relationship between School Socioeconomic Composition and Academic Achievement in Turkiye

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**ABSTRACT**

The socioeconomic distribution of students influences school contexts and learning processes. In this manner, a school's socioeconomic composition has the remarkable potential to shape school climate. This study examines the relationship socioeconomic status (SES) at both the student and school levels has with academic achievement for the first time in Turkiye with regard to academic and vocational tracks. High-stake assessment data of more than 1.4 million students over the last 10 years have been analyzed using two-level hierarchical linear modelling (HLM). The results show parents' education level to be a significant predictor for both academic and vocational tracks, while family income significantly predicts academic achievement just in regard to vocational track. The results highlight both students' and peers' SES to be significantly related to their academic achievement. Additionally, parents' education level is a stronger predictor of achievement than family income level. The results also emphasize the importance the recent improvements and academic support programs from the Ministry of National Education (MoNE) have had in alleviating achievement gaps among schools.

**Keywords:** School climate, socioeconomic status, academic achievement, equality in education, school tracking



## 1. Introduction

Schools are the main educational environment for students, and a school's characteristics consequently have a clear and significant impact on the quality of education. Early studies on the relationship between school environment and student achievement investigated schools' physical characteristics (Galloway, 2020; Kuperminc et al., 1997). Although these studies largely indicated the physical characteristics of a school to be significantly related to student achievement, these relationships are relatively weak, and the results vary significantly across countries and contexts (Barrett, 2019; Galloway, 2020; Ligaya et al., 2016). Over time, research has shown schools' psychological environments to play a more comprehensive and decisive role in shaping educational outcomes.

Although a general consensus is found that school climate is critical for educational outcomes, the definition and components of school climate vary considerably among models (Anderson, 1982; Lehr & Christenson, 2001; Manning & Saddlemire, 2016; Marshall, 2014). The school climate mostly addresses the quality and character of school life and educational experiences (Galloway, 2020; Zullig & Matthews, 2014). Considering that different stakeholders constantly interact with the school environment, one can reasonably assert that many factors exist that affect the quality of school life (Marshall, 2004).

Although the elements of school climate vary among models, the major dimensions include school safety, interpersonal relations, learning and teaching, and educational environment (Galloway, 2020; Marshall, 2004) and thus encompass many educational factors at play in schools. Therefore, these dimensions must be considered in order to achieve solid improvements at the school level.

Despite the fact that all local stakeholders impact school climate, students are also major players in how school climate forms (Darling-Hammond & Cook-Harvey, 2018). Thus, school climate and educational outcomes may differ in educational institutions with relatively similar characteristics, given their unique student populations. In this manner, students' characteristics have a greater impact on school climate than the characteristics of teachers or administrators.

At present, the concept of socioeconomic status (SES) has been used extensively to represent students' resources and capital outside of school (Breen & Jonsson, 2005; Broer et al., 2019). Studies on the relationships among SES, school characteristics, and academic achievement increased significantly after the Coleman Report (Coleman et al., 1966) was published in the United States. Such studies illustrate that SES-advantaged families provide greater support to their children and allocate significantly more resources and budget to education (Blandin, 2016). On the other side, SES-disadvantaged families largely attach inadequate importance and resources to education (Bradley & Corwyn, 2002; Gooding, 2001; Khan et al., 1999; Orr, 2003). Therefore, children from SES-advantaged families have more resources and opportunities to be successful in an educational context.

While this significant relationship between SES and academic achievement is important for school climate, it may also lead to major differences with regard to education types. Research has indicated that students studying in vocational education and training (VET) programs in many countries, including Türkiye, have a relatively lower SES background than their peers enrolled in more academically-focused institutions (Özer, 2019, 2020a, 2021a, 2021b; Suna et al., 2020, 2021; Suna & Özer, 2021). Teachers' expectations toward these students may change based on their socioeconomic disadvantages, and significantly greater numbers of students may need academic support in these institutions. Additionally, school tracking practices contribute to grouping

SES-disadvantaged students in VET institutions (Özer, 2020a; Suna et al., 2020; Suna & Özer, 2020). This minimizes student heterogeneity within schools, limits the effectiveness of learning methods (e.g., peer education), and decreases teachers' expectations from their students (Bölükbaş & Gür, 2020; Slavin & Braddock, 1993). In this context, school tracking practices affect diverse elements of school climate (Meier & Schütz, 2007; Van Houtte, 2004).

Grouping SES-disadvantaged students in VET institutions through school tracking creates new challenges for building a positive school climate (Özer & Suna, 2019, 2020). Meanwhile, studies on the relationship between school SES composition and academic achievement are limited (Berger & Archer, 2016; Caldas & Bankston, 1997; Education Reform Initiative [ERG], 2014; Li & Dockery, 2015). Research on the relationships between school characteristics and academic achievement in Türkiye has largely focused on schools' physical characteristics (Al Şensoy & Sağsöz, 2015; ERG, 2009), school environment (Demirtaş, 2010), and school administrators' leadership styles (Bozkurt & Aslanargun, 2015). However, few studies in Türkiye have examined the relationship between school SES composition and academic achievement (Arifoğlu, 2019; Aydın, 2015; Ersan & Rodriguez, 2020). Therefore, the present study aims to examine the relationship between SES composition and academic achievement at both the student and school levels according to education types. In this context, the research results show unique features. First, the study has obtained generalizable results using student population data from more than 1.4 million students who've taken the central exam over the last 12 years. Second, the study has examined the relationship between SES and academic achievement with regard to vocational and academic schools and evaluated the results comparatively. At the time of publication, this study is the first in Türkiye to examine the relationship between SES and academic achievement across multiple levels and education types.

### **Research Purpose**

This study aims to examine the relationship between SES and academic achievement at both the student and school levels and to evaluate how this relationship changes across different types of schools (i.e., vocational high schools compared to academic high schools). Thus, this study seeks answers to the following research questions:

1. Does a significant relationship exist between students' academic achievement and SES at the student and school levels?
2. Do the relationships between students' academic achievement and SES at the student and school levels differ according to school type?
  - a. Do academic achievement and SES have a significant relationship in academic high schools at the student and/or school levels?
  - b. Do academic achievement and SES have a significant relationship in vocational high schools at the student and/or school levels?

## **2. Method**

### **2.1. Research Design**

This research examines the relationship between socioeconomic variables and student achievement at different levels and was thus designed as a correlational study. Correlational studies focus on the in-depth relationship between variables without any external interventions (Creswell, 2012). In this context, the high-stakes assessment scores of the students who had participated in national central exams over the last 12 years were used as an indicator of academic achievement.

The total years of education these students' parents received as well as their family income levels were considered as SES indicators.

## 2.2. Population

This study uses the data of all students who had participated in secondary education entrance exams in the last twelve years without any missing data to evaluate the relationship between SES and academic achievement in the most generalizable way. Consequently, the population of the study consists of 1,406,115 students from 6,724 different high schools who had studied in the 12<sup>th</sup> grade between 2010 and 2021. Using student population data allows researchers to be able to generalize outputs without any sampling method. Table 1 provides the demographic distribution of the student population.

**Table 1: Demographic Distribution of Students in the Research Population**

Variable	Group	All High Schools		Academic High Schools		Vocational (VET) High Schools	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Gender	Female	780,809	55.5%	377,690	56.5%	274,784	52.1%
	Male	625,306	44.5%	290,439	43.5%	252,770	47.9%
Family Income Level	Low	294,041	20.9%	109,328	16.4%	132,730	25.2%
	Medium	688,736	49.0%	316,061	47.3%	269,083	51.0%
	High	423,338	30.1%	242,740	36.3%	125,741	23.8%
Parents' Total Years of Education	1–10	594,457	42.3%	214,900	32.2%	267,906	50.8%
	11–20	520,069	37.0%	240,091	35.9%	202,416	38.4%
	21–30	229,319	16.3%	156,869	23.5%	53,896	10.2%
	31+	62,270	4.4%	56,269	8.4%	3,336	0.6%
<b>Total</b>		1,406,115	100%	668,129	100%	527,554	100%

Table 1 shows the gender distribution to be quite balanced, with 55.5% of the students in the research population is female and 44.5% is male. The higher number of female students is in line with recent Ministry of National Education formal education statistics (MoNE, 2021). Additionally, about half of the student population group's families are at the middle-income level. Table 1 indicates the rate of VET students at the low-income level (25.2%) to be higher than the percentage of similarly socioeconomically disadvantaged students enrolled in academic high schools (16.4%). The percentage of students whose parents had received 31 years or more of total education is 8.4% in academic high schools, but drops to 0.6% for students in VET high schools. Therefore, the key demographic differences between students enrolled in these two types of schools are clearly reflected in the research population.

## 2.3. Data Collection and Analysis

The student data employed in this study have been used with the official permission of MoNE's Information Technologies Department (Official Permission No. 65968543/622.01-E.16394481). Students' scores on high-stakes assessment exams and data regarding socioeconomic indicators were obtained from the MoNE online school system. The data on parents' education and family income levels are based on the students' personal statements (self-reports) provided with the approval of their teachers. To quantify the education levels of the students' parents, the average of the parents' years of education was calculated according to the schema provided in Table 2.

**Table 2: Parents' Average Years of Education**

Education Level	Average Years of Education
Illiterate	1
Primary School	5
Secondary School	8
Primary	8
High School	12
Upper Secondary Education	12
Associate's Degree	14
Three-Year Education Institute	15
Undergraduate	16
Postgraduate – Master Degree	18
Doctorate	21

As seen in Table 2, parents' total years of education in this study are able to range from 2–42 years. Moreover, the average income level was evaluated at three stages: high (3), medium (2), or low (1) based on students' self-reports. The school-level indicators of socioeconomic characteristics take into consideration the school-level means for the parents' total years of education and income levels.

To measure students' academic achievement, this study uses the high-stakes testing scores from the central examinations used to track students into secondary education institutions over the last 12 years. Given the time period under investigation (2010–2021), the central examinations include both the Level Specifying Exam (SBS) and Transition from Middle School to High School Exam (TEOG). As an indicator of school-level achievement, the mean of students' central exam scores was calculated for each individual school. Schools with fewer than 30 students ( $n < 30$ ) were excluded from the analysis due to inadequate data representation. Anatolian high schools, science high schools, and social science high schools were considered among the academic high schools, while vocational and technical Anatolian high schools, Anatolian fine arts high schools, and sports high schools were considered among the VET high schools.

Hierarchical linear modeling (HLM) was used to examine the relationship between SES and academic achievement at both the student and school levels. HLM is an analysis method that allows one to examine the relationships among variables at multiple levels in nested designs where students are grouped in schools (Raudenbush & Bryk, 2002; Woltman et al., 2012). HLM reduces estimation errors by considering the common variance between variables at different levels. Given its suitability for the research purpose and the advantages it provides, this study uses two-level HLM analysis.

### 3. Findings

#### 3.1. Findings on the Relationship Between Students' Academic Achievement and SES at the Student and School Levels

The two-level HLM analyses were performed with the entire student population. The outcomes of these analyses are provided in Table 3.

**Table 3: Two-Level HLM Results on the Relationship Between Socioeconomic Status and Academic Achievement for the Total Student Population**

Confidence estimate		0.992			
Fixed Effect	Coefficient	Standard Error	t-statistic	df	p
<i>Level 2</i>					
Intercept	142.4	5.92	<b>24.07</b>	6,721	<0.001
Parents' Total Years of Education	8.78	0.19	<b>45.83</b>	6,721	<0.001
Family Income Level	26.54	3.78	<b>7.02</b>	6,721	<0.001
<i>Level 1</i>					
Parents' Total Years of Education	0.60	0.01	<b>47.98</b>	1,399,389	<0.001
Income Level	1.25	0.08	<b>15.21</b>	1,399,389	<0.001

As seen in Table 3, when including all students in the analysis, the relationships between socioeconomic variables and academic achievement are significant both at the student and school levels. In other words, both parents' years of education and family income level have a significant relationship with academic achievement. Additionally, the finding that the relationship between academic achievement and parents' total education is stronger than the one between student achievement and family income is also significant. At both levels, the t-statistics on the relationship between parents' total education and student achievement are significantly higher than the those regarding family income level and student achievement. Moreover, student achievement is related to both their peers' income level and parents' years of education. Moreover, student academic achievement has a stronger association with the education period of both their own parents and their peers' parents.

**3.2. The Relationship Between Students' Academic Achievement and SES at the Student and School Levels According to School Type**

The two-level HLM analyses were then performed with student groups from different school types. Tables 4 and 5 present the findings from these analyses.

**Table 4: Two-Level HLM Results on the Relationship Between Socioeconomic Status and Academic Achievement for Academic High Schools**

Reliability Estimation		0.992			
Fixed Effect	Coefficient	Standard Error	t-statistic	SD	p
<i>Level 2</i>					
Intercept	271.97	8.58	<b>31.70</b>	3,262	<0.001
Parents' Total Years of Education	7.06	0.25	<b>28.28</b>	3,262	<0.001
Family Income Level	-8.14	5.34	<b>-1.53</b>	3,262	0.127
<i>Level 1</i>					
Parents' Total Years of Education	0.50	0.01	<b>36.82</b>	664,862	<0.001
Family Income Level	-0.29	0.10	<b>-2.88</b>	664,862	0.004

As seen in Table 4, the findings for academic high schools differ significantly than those for VET high schools. According to the findings in Table 4, the only socioeconomic variable significantly associated with academic achievement regarding academic high schools is parents' total years of education (school level:  $t = 28.28, p < 0.001$ ; student level:  $t = 36.82, p < 0.001$ ). In other words, family income level did not have a significant relationship with academic achievement at

the student level ( $t = -2.88, p > 0.001$ ) or school level ( $t = -1.53, p > 0.001$ ). This finding indicates that parents' educational attainment is much more effective at increasing student achievement, while family income is not a significant predictor of student achievement in academic high schools. Therefore, the years of education for students' own parents and their peers' parents become more critical in terms of student achievement in academic high schools.

The findings regarding the relationships between socioeconomic characteristics and academic achievement in VET high schools are given in Table 5.

**Table 5: Two-Level HLM Results on the Relationship Between Socioeconomic Status and Academic Achievement for VET High Schools**

Reliability Estimation		0.992			
Fixed Effect	Coefficient	Standard Error	<i>t</i> -statistic	<i>SD</i>	<i>p</i>
<i>Level 2</i>					
Intercept	146.59	10.11	<b>14.50</b>	2,122	<0.001
Parents' Years of Education	7.57	0.47	<b>16.04</b>	2,122	<0.001
Income Level	21.81	6.00	<b>3.63</b>	2,122	<0.001
<i>Level 1</i>					
Parents' Years of Education	0.51	0.02	<b>28.89</b>	525,427	<0.001
Income Level	2.17	0.13	<b>16.89</b>	525,427	<0.001

As seen in Table 5, the findings regarding VET high schools largely align with the findings from the overall Turkish student population (in Table 3). In other words, both parents' total years of education and family income level have a significant relationship with academic achievement at both the student level ( $t = 16.89, p < 0.001$ ) and school level ( $t = 3.63, p < 0.001$ ). This indicates that increasing student achievement in VET high schools is directly related to both parents' educational attainment and family income. Therefore, when including parents' total years of education in the regression model, family income level continues to make a significant contribution to the model. When comparing the predictive power of the SES variables, parents' total years of education appears to be a stronger predictor of achievement than family income for the student population enrolled in VET high schools.

#### 4. Discussion and Conclusion

School-centered approaches are frequently used around the world to increase the quality of education. School climate incorporates all components of the psychological environment of the school and is therefore a critical concept in endeavors at improving education (Maxwell et al., 2017). A school's socioeconomic composition is also quite critical for many internal school processes (Skowron, 2005; Xuan et al., 2019). Moreover, SES affects teachers' expectations from students, school leadership, and learning and teaching methods (Adejumo, 2017; Teddlie & Stringfield, 1985; Xuan et al., 2019). Although school SES composition is important for school climate, studies on the relationship between these demographic characteristics and student achievement are limited in Türkiye (Arifoğlu, 2019; Aydın, 2015; Ersan & Rodriguez, 2020). Therefore, the present study has aimed to examine the relationship between socioeconomic composition and academic achievement at the student and school levels across diverse education types. For this purpose, the study has used the high-stakes assessment data of more than 1.4 million students over the last 12 years. As an additional dimension, the relationship between SES composition and

academic achievement was examined in both academic and vocational tracks using a comparative approach.

The main results from this study demonstrate that socioeconomic characteristics, specifically those illustrated through parents' education levels and family income, have a significant relationship with student achievement. The findings also show this relationship to be significant at both the student and school levels. Therefore, in addition to the students' own family's socioeconomic characteristics, the socioeconomic characteristics of their school peers' are also significantly related to their personal achievement. This is true both when all students were included in the analysis and when comparing the academic and vocational tracks. Another important result is that parents' total years of education have a significantly stronger relationship with academic achievement than family income level. This result supports previous studies that have indicated more educated families to give greater importance and support to their children's education (Duan et al., 2018; Qishan et al., 2018). Therefore, an increase in parents' total years of education provides a greater benefit than an increase in the family income alone.

Second, parental education level becomes more prominent as a determinant of academic achievement in academic high schools, while the relationship between family income level and academic achievement becomes insignificant in these types of institutions. Therefore, the results indicate that the holistic support families provide based on their years of education is more critical for increasing student achievement in academic high schools. When this support is provided by parents, family income no longer contributes significantly to student achievement. In VET high schools, on the other hand, a significant relationship was found for student achievement with both parents' total years of education and family income level. In this context, increasing parental educational attainment should be a priority, but family income can also make significant contributions to student achievement. This result could also stem from the long-term socioeconomic disadvantage of VET students in Türkiye (Özer, 2020a, 2020b, 2021a; Suna & Özer, 2021, Suna et al., 2021). Students who face greater disadvantages in terms of both parental education and family income are likely to need greater support.

The findings signal the importance of further studies designed to support family education, promote equal educational opportunities, and alleviate the infrastructure differences between schools in Türkiye. The fact that students' personal achievement is closely linked to the characteristics of their peers at school makes mitigating the differences between academic and VET schools a priority. Ongoing policies and programs prioritizing equal educational opportunities, such as the 1,000 Schools in Vocational Education, 10,000 Schools in Primary Education, and Libraries for All Schools projects aimed at mitigating achievement gaps, and providing equal opportunities in schools (Özer, 2021c; MoNE, 2022). The findings from the present study show parent education to be the most important characteristic for increasing student achievement. Ensuring that parents participate in education through these and other MoNE projects, as well as encouraging their enrollment in open secondary and/or high schools and lifelong education courses, will contribute to increasing student achievement.

Improving practical skills through VET alongside increasing students' earnings through the revolving fund contributes to family income, which again may bolster student achievement. The regulation made through Vocational Education Law No. 3308 improves the earnings of VET students, which can in turn boost family income (Özer & Suna, 2022). Conditional education support (ŞEY in Turkish) has been implemented since 2003 and made significant contributions to the participation of socioeconomically disadvantaged students' education as well (Özer et al., 2021). Finally,



the Remedial Education & Support Program in Primary Education (IYEP in Turkish) and support and training courses (DYK in Turkish) offered for students who require academic and psychosocial support to continue their education have also helped to close these critical achievement gaps (Özer, 2022; Özer et al., 2021). The continuation of these and other projects that support all education stakeholders, diversify educational opportunities, and provide support from MoNE will contribute to alleviating the gap between school types and providing equal opportunities to all students.

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## References

- Al Şensoy, S., & Sağsöz, A. (2015). The relationship of student achievement with the physical conditions of the classrooms. *Journal of Kirsehir Education Faculty*, 16(3), 87–104.
- Anderson, C. S. (1982). The search for school climate: a review of research. *Review of Educational Research*, 52, 368–420.
- Arifoglu, A. (2019). *Investigation of school effect on student achievement: A multilevel analysis according to TIMSS 2015 Turkey data*. (Unpublished PhD Thesis). Hacettepe University, Institute of Educational Sciences, Ankara.
- Aydin, M. (2015). *The effect of student and school related factors on TIMSS mathematics achievement* (Unpublished Doctoral Thesis). Necmettin Erbakan University, Institute of Educational Sciences, Konya.
- Barrett, P., Treves, A., Shmis, T., Ambazs, D., & Ustinova, M. (2019). *The impact of school infrastructure on learning: A synthesis of the evidence*. World Bank Group. <https://files.eric.ed.gov/fulltext/ED604388.pdf>.
- Berger, N., & Archer, J. (2016). School socio-economic status and student socio-academic achievement goals in upper secondary contexts. *Social Psychology of Education: An International Journal*, 19, 175–194.
- Bozkurt, S., & Aslanargun, E. (2015). Instructional leadership behaviors of principals' in terms of teaching process and students' achievement. *Journal of Education and Humanities: Theory and Practice*, 6, 151–174.
- Bölükbaş, S., & Gür, B. S. (2020). Tracking and inequality: The results from Turkey. *International Journal of Educational Development*, doi:10.1016/j.ijedudev.2020.102262.
- Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual Review of Psychology*, 53, 371–399.
- Breen, R., & Jonsson, J. O. (2005). Inequality of opportunity in comparative perspective: Recent Research on educational attainment and social mobility. *Annual Review of Sociology*, 31, 223–243.
- Broer, M., Bai, Y., & Fonseca, F. (2019). *Socioeconomic inequality and educational outcomes: Evidence from twenty years of TIMSS*. Switzerland: Springer.
- Caldas, S. J., & Bankston, C. (1997). Effect of school population socioeconomic status on individual academic achievement. *The Journal of Educational Research*, 90, 269–277.
- Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Merrill Publications.
- Coleman, J. S., Campbell, E. Q., Hobson, C. J., McPartland, F., Mood, A. M., Weinfeld, G. D., & York, R. L. (1966). *Equality of educational opportunity*. Washington, DC: US Government Printing Office.
- Darling-Hammond, L., & Cook-Harvey, C. (2018). Educating the whole child: Improving school climate to support student success. [https://learningpolicyinstitute.org/sites/default/files/product-files/Educating\\_Whole\\_Child\\_REPORT.pdf](https://learningpolicyinstitute.org/sites/default/files/product-files/Educating_Whole_Child_REPORT.pdf).

- Demirtas, Z. (2010). The relationship between school culture and student achievement. *Education and Science*, 35, 3–13.
- Duan, W., Guan, Y., & Bu, H. (2018). The effect of parental involvement and socioeconomic status on junior school students' academic achievement and school behavior in China. *Frontiers in Psychology*, 9, 952.
- Education Reform Initiative. (2009). *Determinants of inequality in student achievement in Turkey*. ERG. <https://www.egitimreformugirisimi.org/wp-content/uploads/2017/03/%c3%96%c4%9frenchi-Ba%5c%9far%c4%bls%c4%blnda-E%c5%9fitsizli%c4> Retrieved from %9fin-Identifiers.pdf .
- ERG. (2014). *Equality and academic success in the Turkish education system: Research report and analysis*. ERG. <https://www.egitimreformugirisimi.org/turkiye-egitim-sisteminde-esitlik-ve-akademik-basari/> .
- Ersan, Ö., & Rodriguez, M. C. (2020). Socioeconomic status and beyond: A multilevel analysis of TIMSS mathematics achievement given student and school context in Turkey. *Large-Scale Assessments in Education*, 8(15), doi:10.1186/s40536-020-00093-y
- Galloway, S. (2002). School climate: A review of literature. *Graduate Research Papers*. 717.
- Gooding, Y. (2001). *The Relationship between parental educational level and academic success of college freshmen*. Retrospective Theses and Dissertations. 429.
- Khan, R. M., Khan, M. A., & Zubairi, N. (1999). Parental involvement and reading attainment: A study of 4th grade. *Pakistani Children's Journal Pendidikan*, 20, 83–94.
- Kuperminc, G., Leadbeater, B., Emmons, C., & Blatt, S. (1997). Perceived school climate and difficulties in the social adjustment of middle school students. *Applied Developmental Science*, 1, 76–88.
- Lehr, C. & Christenson, S. (2001 ). *Best practices in promoting a positive school climate: Best practices in school psychology IV* (pp. 929–947). Washington, DC: National Association of School Psychologists.
- Li, I. W., & Dockery A. M. (2015). Does school socio-economic status influence university outcomes? *Australian Journal of Labour Economics*, 18, 75–94.
- Ligaya, L. F., Samsung, L. & Jihyun, L. (2016). Investigating the relationship between school facilities and academic achievements through geographically weighted regression. *Annals of GIS*, 22:4, 273–285.
- Manning, M. L., & Saddlemire, R. (1996). Developing a sense of community in secondary schools. National Association of Secondary School Principals. *NASSP Bulletin*, 80(584), 41–48.
- Marshall, M. L. (2004). *Examining school climate: Defining factors and educational influences*. Georgia State University Center for School Safety, School Climate and Classroom Management. [https://schoolsafety.education.gsu.edu/wp-content/blogs.dir/277/files/2013/10/whitepaper\\_marshall.pdf](https://schoolsafety.education.gsu.edu/wp-content/blogs.dir/277/files/2013/10/whitepaper_marshall.pdf) adresinden erişildi.
- MEB (2022). *Yüz yüze eğitime dönüşte 180 gün: 6 Ağustos 2021-6 Şubat 2022*. MEB Yayınları.
- Meier, V., & Schütz, G. (2007). *The economics of tracking and non-tracking*. IFO Working Paper No. 50.
- Orr, A. J. (2003). Black-white differences in achievement: The importance of wealth. *Sociology of Education*, 76, 281–304.
- Özer, M. (2019). Reconsidering the Fundamental Problems of Vocational Education and Training in Turkey and Proposed Solutions for Restructuring. *Istanbul University Journal of Sociology*, 39, 1–19.
- Özer, M. (2020a). *Mesleki eğitimde paradigma değişimi: Türkiye'nin mesleki eğitim ile imtihanı*. Maltepe Üniversitesi Yayınları.
- Özer, M. (2020b). Vocational education and training as “a friend in need” during coronavirus pandemic in Turkey. *Bartın University Journal of Faculty of Education*, 9(2), 1–7.
- Özer, M. (2021a). *Eğitimde sistemik uyum*. Maltepe Üniversitesi Yayınları.
- Özer, M. (2021b). The new steps taken for improvement of vocational education and training in Turkey. *International Journal of Turkish Educational Sciences*, 9(16), 1-16.
- Özer, M. (2021c). A new step towards narrowing the achievement gap in Turkey: “1,000 Schools in Vocational Education and Training” Project. *Bartın University Journal of Faculty of Education*, 10(1), 97–108.
- Özer, M., Gençoğlu, C., & Suna, H. E. (2021). Policies for alleviating educational inequalities in Turkey. *Ondokuz Mayıs University Journal of Education Faculty*, 39(2), 294–312.
- Özer, M. (2022). *Türkiye'de eğitimin evrenselleşmesi*. Maltepe Üniversitesi Yayınları.
- Qisha, C., Yurou, K., Wenyang, G., & Lei, M. (2018). Effects of socioeconomic status, parent–child relationship, and learning motivation on reading ability. *Front. Psychol.*, doi: 10.3389/fpsyg.2018.01297

- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods*. SAGE Publications.
- Skowron, E. A. (2005). Parent differentiation of self and child competence in low-income urban families. *Journal of Counseling Psychology, 52*, 200–215.
- Slavin, R. E., & Braddock, J. H. (1993). Ability grouping on the wrong track. *The College Board Review, 68*, 11–17.
- Suna, H. E., Gür, B. S., Gelbal, S., & Özer, M. (2020). Science high school students' socioeconomic background and their preferences regarding their transition into higher education. *Journal of Higher Education, 10*(3), 356–370.
- Suna, H. E., & Özer, M. (2021). The impact of school tracking on secondary vocational education and training in Turkey. *Hacettepe University Journal of Education, 36*(4), 855–870.
- Suna, H. E., Tanberkan, H., Eroğlu, E., Özer, M., & Gür, B. S. (2021). Horizontal skills mismatch in vocational education in Turkey: The reasons for out-of-field employment. *Istanbul University Journal of Sociology, 40*(2), 931–955.
- Teddlie, C., & Stringfield, S. (1985). A differential analysis of effectiveness in middle and low socioeconomic status schools. *The Journal of Classroom Interaction, 20*(2), 38–44.
- Van Houtte, M. (2004). Tracking effects on school achievement: A quantitative explanation in terms of the academic culture of school staff. *American Journal of Education, 110*.
- Woltman, H., Feldstain, A., MacKay, C., & Rocchi, M. (2012). An introduction to hierarchical linear modeling. *Tutorials in Quantitative Methods for Psychology, 8*(1), 52–69.
- Xuan, X., Xue, Y., Zhang, C., Luo, Y., Jiang, W., Qi, M., & Wang, Y. (2019). Relationship among school socioeconomic status, teacher-student relationship, and middle school students' academic achievement in China: Using the multilevel mediation model. *PloS one, 14*(3), e0213783.
- Zullig, K., & Matthews, M. R. (2014). School climate. In: Michalos AC (Ed.). *Encyclopedia of quality of life and well-being research*. Springer, Dordrecht.

