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# School Climate as a Predictor of Early School Leavers

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## Abstract

*When investigating the literature, it seems that little attention has been paid to the school climate as a predictor of early school leavers (ESL). The main purpose of the present study was to answer the question, "to what extent does school climate predict the proportion of students leaving without a certificate?" The OECD data used in the study included 170 schools/principals, and 4848 students from Turkey. School principals' reports of "Students leaving without certificate (SC23Q01)" in the PISA 2012 study was used as the predicted variable. The perceptions of school principals and students in the PISA 2012 Turkey sample on factors related to school climate were used as predictor variables through a multiple linear regression analysis. The results showed that teacher- and student-related factors affecting school climate were moderately correlated with the proportion of early leavers. Teacher morale and disciplinary climate had a low correlation with the proportion of early leavers. The strongest association existed between student-related factors and teacher-related factors affecting school climate which were positively and strongly associated. School climate accounted for approximately 18% of the variance of ESL. These findings suggest that teacher- and student-related factors hinder learning to a lesser extent and tend to prevent ESL.*

**Key words**: *early school leavers; multiple linear regression analysis; school climate; Turkey.*

## Introduction

Early school leavers (ESL) can be described as a complex problem deriving from personal, social, economic, educational or family-related reasons. In addition to the efforts of schools, solving such a problem entails a comprehensive approach (European Commission, 2013). Moreover, Vallejo and Dooly (2013) explained that ESL is a structure affected by both exogenous factors (e.g. socio-economic conditions,

gender, ethnic origin or cultural capital of families, etc.) and endogenous factors (curriculum content, subjective evaluation procedures determining final certificates, etc.). Tukundane, Zeelen, Minnaert, and Kanyandago (2014) asserted that early school leaving is a bad and traumatizing experience affecting sense of self-worth and leading to limited life opportunities and exposure to social exclusion.

Poor school performance tends to be a major risk factor for future psychosocial problems among young people (Berlin, Vinnerljung, & Hjern, 2011). In the study by McKeown and Fitzgerald (2006), early school leavers in Ballymun and Mayo reported logical outcomes of the unhappiness which they experienced there, which was related, in turn, to difficulties with teachers, peers, with learning generally or being expelled, as the reasons for early school leaving. The "less educated are doubly disadvantaged" as a consequence of labor market flexibility (de Lange, Gesthuizen, & Wolbers, 2012). ESL also risk not completing vocational training and being excluded from stable employment in their working life (Gaupp, Lex, & Reissig, 2008). Kysel, West, and Scott (1992) investigated fifth-year students' reasons for leaving education and the influences on this decision in East London. They found that disproportionately, white, male and working class students tend to leave education at the end of the fifth year. James and Lawlor (2001) determined that girls indicated greater problems than boys and tended to be at greater risk of self-harm. Nevertheless, parents' views can have a considerable role in shaping children's attitudes towards school, affecting their levels of family-school engagement, and influencing their residential and school enrollment decisions (Schueler, Capotosto, Bahena, McIntyre, & Gehlbach, 2014).

Solving or reducing ESL can bring considerable social, psychological or economic benefits such as "integration of young people into the labor market, breaking the cycle of deprivation that leads to the social exclusion of too many young people" (European Commission, 2013). In parallel, since ESL is a heterogeneous phenomenon, its returns to education are inherently heterogeneous (Brunello & De Paola, 2013).

ESL is a serious problem which, although partly societal in origin, should be dealt with in the school system. In the strategic framework for European cooperation in education and training, *ET2020*, Member States agreed that by 2020, the share of early leavers from education and training should be less than 10%, as a contribution to maximizing the number of learners completing their education and training (Council of the European Union, 2009).

Successful policies should be enacted for coping with ESL. In the thematic work group report on ESL by the European Commission (2013, p. 4) policies that should be performed can be summarized as follows:

> "*ensure long-term political and financial commitment; ensure children and young people are at the centre of all policies; develop and implement a sustainable national strategy; invest in the knowledge base of ESL; strong, long-term cooperation between national, regional/ local authorities and stakeholders; remove obstacles within the school education system; support schools to develop conducive and supportive*

*learning environments; promote and support multi-professional teams in schools to address ESL; promote strong commitment from all stakeholders in efforts to reduce ESL; enable staff to provide differentiated learning support; ensure counseling systems provide young people with both emotional and practical support; reinforce accessibility to second chance schemes for all young people*".

Using the 2005 cross-sectional EU-SILC data, van Alphen (2012) found that "the negative effect of early school leaving on income is reduced by educational inclusiveness at the country level". Efforts in improving student engagement, and bullying as a factor of school climate should be taken into account (Mehta, Cornell, Fan, & Gregory, 2013). In particular, establishing sustainable learning environments can play a considerable role in preventing deliberately and/or inadvertently excluded and marginalized learners (Mahlomaholo, 2012).

McEvoy and Welker (2000, pp. 138-139) suggested several promising practices for school-based prevention and intervention with students at risk of academic failure and antisocial behavior:

1) Educators should investigate the ineffective implementations for preventing antisocial behavior and academic problems, and eliminate or modify them.
2) Schools should establish appropriate assessment practices intended for the early identification of problem behaviors and academic skill needs.
3) Develop a school wide approach to improving the learning climate on the basis of research.
4) Emphasize staff development as one of the top school priorities, and align staff development to building goals and programs.
5) Increase the amount of adult-child contact time.

Although studies focused on the possible causes of early leavers, little has been reported about the experiences and social world of this phenomenon (Tukundane et al., 2014). As a result, the findings derived from the present study can contribute especially to the policy development for reducing the problem.

## *School Climate*

In recent years, many domestic and international institutions dealing with education (e.g. the U.S. Department of Education, Center for Disease Control and Prevention, Institute for Educational Sciences, a growing number of State Departments of Education, foreign educational ministries, and UNICEF) have focused attention on the school climate reform by supporting students, parents/guardians, and school personnel in learning and working together to create safer, more supportive and engaging K–12 schools (Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013). Considered as a vital aspect of effective schools, school climate has been a slogan for better schools (Hoy & Hannum, 1997).

In reference to the quality and character of school life, school climate refers to "patterns of people's experiences of school life and reflects norms, goals, values,

interpersonal relationships, teaching and learning practices, and organizational structure"(Cohen, McCabe, Michelli, & Pickeral, 2009). Calik and Kurt (2010) described school climate as an organizational feature that influences teachers, students, school principals, and parents as well as being affected by these stakeholders. Furthermore, schools have been considered as similar to people, with their own characteristic personalities or climates (Welsh, 2000). School climate indicates the physical and psychological aspects of the school, and also provides the preconditions for teaching and learning (Kartal & Bilgin, 2009).

School climate is a complex structure covering many dimensions: appraisal and recognition, curriculum coordination, effective discipline policy, excessive work demands, goal congruence, participative decision-making, professional growth, professional interaction, role clarity, student orientation, supportive leadership (Hart, Wearing, Conn, Carter, & Dingle, 2000); teacher-student relations, student-student relations, fairness of rules, liking of school, school safety (Bear, Gaskins, Blank, & Chen, 2011); sharing of resources, order and discipline, parent involvement, appearance of the school building, student interpersonal relations (Suldo, McMahan, Chappel, & Loker, 2012); parent/community relations, administration, student behavioral values (Grayson & Alvarez, 2008); relationships, teaching and learning, the institutional environment, the school improvement process (Thapa et al., 2013); issues relative to the school, relative to the teaching staff (Trianes et al., 2006); friction, cohesion, competition among students, and satisfaction with classes (Loukas & Murphy, 2007); teacher support, student-student support, and opportunities for autonomy in the classroom (Jia et al., 2009).

A number of studies have focused on the effect of school climate on behavior and academic achievement, particularly in high disadvantaged schools (Hopson & Lee, 2011). Because school climate refers to various physical and psychosocial dimensions determining the schools' social and physical environments (Parcel et al., 2003), it is unarguable that such a structure will play a significant role in preventing student risk behavior enhancing both the understanding and the prevention of school violence (Klein, Cornell, & Konold, 2012; Welsh, 2000). Additionally, it can be seen as a considerable factor for improving learning outcomes (Kartal & Bilgin, 2009). Nevertheless, it is not needed only for students' own development and academic performance, but also to enhance the climate of living together at school (Gazquez, Perez, & Carrion, 2011).

Koth, Bradshaw, and Leaf (2008) determined that the individual-level factors (race and sex), school-level factors (e.g., school size and faculty turnover), and several classroom-level factors (e.g., characteristics of the teacher, class size, and the concentration of students with behavior problems) were significant predictors of the perceived school climate. Besides this, school climate is the strongest predictor of school morale, distress (Burns & Machin, 2012); teachers' greater general professional commitment, future professional commitment, and organizational commitment

(Collie, Shapka, & Perry, 2011); teachers' job satisfaction (Taylor & Tashakkori, 1995); social skills in the first and second grades and mathematics and reading achievement scores in the first grade (Esposito, 1999).

School climate is considerably related to school stress and depression symptoms (Buddeberg-Fischer, Klaghofer, Leuthold, & Buddeberg, 2000; Liu & Lu, 2012); perceived school violence (Ozdemir, Sezgin, Sirin, Karip, & Erkan, 2010); effective violence prevention, students' healthy development, teacher retention (Cohen et al., 2009); teacher morale (Hart et al., 2000); students' mental health (Suldo et al., 2012); order, safety, and discipline; fairness and clarity of school rules; teacher-student relationship (Fan, Williams, & Corkin, 2011); academic achievement (Hopson & Lee, 2011; Hoy & Hannum, 1997; Luo, Huang, & Najjar, 2007; West, 1985); leadership, salaries, opportunities for advanced studies, promotion, physical conditions (Pan & Qin, 2007); postgraduate caring ability (Simmons & Cavanaugh, 2000); burnout (Grayson & Alvarez, 2008); teachers' job satisfaction scores (Nalcaci, 2012); teacher victimization (Gottfredson, Gottfredson, Payne, & Gottfredson, 2005); parental involvement, bullying behaviors (Lee & Song, 2012); adolescents' life satisfaction (Lopez, Perez, Ochoa, & Ruiz, 2008); emotional and behavioral problems of students (Somersalo, Solantaus, & Almqvist, 2002); socioeconomic status, (McEvoy & Welker, 2000); bullying behavior (Mehta et al., 2013; Raskauskas, Gregory, Harvey, Rifshana, & Evans, 2010; Wang, Berry, & Swearer, 2013); and active participation of students in school activities (Chen, Lin, Wang, Lin, & Kao, 2012).

When investigating the literature, it seems that little attention is given to school climate as a predictor of ESL. In this regard, the main question, "to what extent does school climate predict the proportion of students leaving without a certificate?" was addressed. Sub-questions were as follows:

To what extent:

1) do teacher-related factors affecting school climate affect the proportion of students leaving without a certificate?;
2) do student-related factors affecting school climate affect the proportion of students leaving without a certificate?;
3) does teacher morale affecting school climate affect the proportion of students leaving without a certificate?;
4) does the school's disciplinary climate affect the proportion of students leaving without a certificate?;
5) do teacher-student relations affecting school climate affect the proportion of students leaving without a certificate?.

## Method

### *Participants*

In the present study, the PISA 2012 Turkey school principal and student samples were used. The OECD data used in the study included 170 schools/principals, and

4848 students. Table 1 shows the distribution of data for schools/principals and students according to some descriptive characteristics. Accordingly, the location of schools were village (n=8; 4.7%), small town (n=20; 11.8%), town (n=51; 30%), city (n=46; 27.1%), and large city (n=45; 26.5%). Only two schools were private. Most of the schools were secondary (n=151; 88.8%), and the remaining were primary (n=19; 11.2%).

Echoing this, a larger proportion of the students included in the OECD data were from secondary schools (n= 4728; 97.5%), the remaining, very small proportion, were from primary schools (n=120; 2.5%). In the total sample of students in the OECD data, 13.7% (n=664) reported repeating a grade. Also 70% of students (n=3395) reported that they did not attend pre-primary education <ISCED O>; only 21% (n=1019) reported attending one year or less, and 8.4% (n=407) reported attending more than one year. The majority of the sample consists of 10th grade students (n=3202; 66%)

Table 1

*Sample characteristics*

| Variables | School/principals | | Students | |
|---|---|---|---|---|
| | *n* | % | *n* | % |
| *School Location* | | | | |
| Village | 8 | 4.7 | – | – |
| Small town | 20 | 11.8 | – | – |
| Town | 51 | 30.0 | – | – |
| City | 46 | 27.1 | – | – |
| Large city | 45 | 26.5 | – | – |
| *Public/Private* | | | – | – |
| Public | 166 | 97.6 | – | – |
| Private | 2 | 1.2 | – | – |
| *School Type* | | | | |
| Primary | 19 | 11.2 | 120 | 2.5 |
| Secondary | 151 | 88.8 | 4728 | 97.5 |
| *Gender* | | | | |
| Female | – | – | 2370 | 48.9 |
| Male | – | – | 2478 | 51.1 |
| *Grade Repetition* | | | | |
| Did not repeat a <grade> | – | – | 4144 | 85.5 |
| Repeated a <grade> | – | – | 664 | 13.7 |
| *Attend <ISCED 0>* | | | | |
| No | – | – | 3395 | 70.0 |
| Yes, for one year or less | – | – | 1019 | 21.0 |
| Yes, for more than one year | – | – | 407 | 8.4 |
| *International Grade* | | | | |
| 7 | – | – | 21 | .4 |
| 8 | – | – | 99 | 2.0 |
| 9 | – | – | 1317 | 27.2 |
| 10 | – | – | 3202 | 66.0 |
| 11 | – | – | 194 | 4.0 |
| 12 | – | – | 15 | .3 |

## *Measures*

### Dependent Variable

"Students leaving without certificate (SC23Q01)" was selected from the OECD PISA 2012 database as the dependent variable in the current study. PISA-2012 asked school principals "what proportion of students left the school without a certificate or qualification that allowed them to enter post-school destinations such as university, technical, further or vocational education, apprenticeships or employment". In this study, these proportions were used as the dependent variable.

### Independent Variables

In this study, five indices determining school climate developed by OECD (2013) were used as independent variables. The explanations regarding these indices are given as follows.

#### Disciplinary Climate

PISA 2012 also asked students "How often do these things happen in your mathematics classes? (e.g., students don't listen to what the teacher is saying, students don't start working for a long time after the lesson begins, there is noise and disorder, etc.)". Variable coding by OECD (2014) is as follows: 1=every lesson; 2=most lessons; 3=some lessons; 4=never or hardly ever. Also, OECD (2014) coded it reversely as (1=0), (2=1), (3=2), (4=3) and the total score was estimated as a ratio of a sum of all questions over maximum score. The answers were transformed by OECD into an *index of disciplinary climate* (DISCLIMA) having a mean of zero and standard deviation of one. The higher values display a better perception of students (OECD, 2013).

#### Teacher-Student Relations

PISA 2012 asked students "Thinking about the teachers at your school: To what extent do you agree with the following statements? (e.g., they get along with their teachers, teachers take the students seriously, teachers are a source of support if the student needs extra help, etc.)". Variable coding by OECD (2014) was as follows: 1=strongly agree; 2=agree; 3=disagree; 4=strongly disagree. Additionally, OECD (2014) coded it reversely as (4=0), (3=1), (2=2), (1=0) and the total score was estimated as a ratio of a sum of all questions over maximum score. The answers were transformed by OECD into an *index of teacher-student relations* (STUDREL), having a mean of zero and standard deviation of one. Higher values display a positive perception of students on relations between teachers and students (OECD, 2013).

#### Teacher Morale

The responses of school principals regarding teacher morale in their school (e.g. *the morale of teachers in this school is high; teachers work with enthusiasm; teachers value academic achievement,* etc.) were used by OECD to create an *index of teacher morale* (TCMORALE) having a mean of zero and standard deviation of one. The four

response categories for endorsement ranged from "strongly agree", "agree", "disagree" to "strongly disagree". All items were reversed. Positive values display higher teacher morale, whereas negative values display lower teacher morale on the basis of the principals' perception (OECD, 2013).

#### Teacher-Related Factors Affecting School Climate

PISA asked school principals "In your school, to what extent is the learning of students hindered by the following phenomena (e.g. students not being encouraged to achieve their full potential; teachers' low expectations of students; teacher absenteeism)". The four response categories were "not at all", "very little", "to some extent" and "a lot". The responses giving the views of the principals were transformed by OECD into an *index of teacher-related factors affecting school climate* (TEACCLIM). It has a mean of zero and a standard deviation of one. While positive values of the index indicate that the teacher-related factors hinder learning to a lesser extent, negative values indicate that teacher-related factors hinder learning to a greater extent on the basis of the principals' views (OECD, 2013).

#### Student-Related Factors Affecting School Climate

School principals were asked "In your school, to what extent is the learning of students hindered by the student-related factors (e.g. student truancy, students lacking respect for teachers, students intimidating or bullying other students)". The four response categories were "not at all", "very little", "to some extent" and "a lot". Their responses were transformed by OECD into *the index of student-related factors affecting school climate* (STUDCLIM). Having a mean of zero and standard deviation of one, positive values indicate that the students hinder learning to a lesser extent, whereas the negative values show that they hinder learning to a greater extent according to the principals' views (OECD, 2013).

### *Procedure*

To address the research questions, the school principal and student questionnaires from the large-scale PISA 2012 study and the PISA 2012 report, volume IV (OECD, 2013) were investigated. After determining the questions and indices prepared by OECD, the available database for professional researchers on the official website of OECD PISA comprising the Turkey sample were selected, and put through a quantitative analysis using SPSS® software. When analyzing the data, the school data file including principals' answers deriving OECD was used as the main data set. The averages of the DISCLIMA and STUDREL indices, including students' responses placed in the student file were estimated according to the school ID. In this way, the estimated average indices of DISCLIMA and STUDREL for each school were combined in the school data file as new variables.

Prior to the analysis of data in accordance to the research questions, the assumptions of regression analysis were investigated. To do this, the assumptions were assessed as to

whether the variables, which would take part in the regression model, were important according to the literature; whether the variables were available in terms of continuous or nearly continuous data; whether there was a lack of multicollinearity; and whether the variables in the model had linear relationships (Starkweather & Herrington, 2014). When investigating the Mahalanobis distance, the estimations on the basis of skewness (1.54) and kurtosis (2.67) showed no multivariate outliers. Additionally, when investigating linear relationships, it seemed that the Normal P-Plot of regression standardized values and histogram of the standardized residual values on the reference line supported the assumptions regarding linear relationships. Consequently, Multiple Linear Regression Analysis (MLRA) was used to predict ESL by school climate.

# Results

## *Descriptive Statistics*

Table 2 shows the descriptive statistics for the dependent and independent variables. When considering the dependent variable, school principals report that students leaving without a certificate range from 0% to 43%. The principals' reports also indicate that the average of early leavers is low (M=4.23; SD=6.88). Teacher-related factors affecting school climate range from -3.58 to 2.85. Similarly, student-related factors affecting school climate range from -3.25 to 2.75. Teacher morale also ranges from -3.09 to 1.44 according to the views of school principals. These three independent variables derived from school principals' views have a negative average with a standard deviation of 1. Nevertheless, students' responses show that disciplinary climate ranges from -1.07 to 1.05 and teacher-student relations range from -1.04 to 2.16, Whereas students' views have a negative average of disciplinary climate (SD=0.38), they indicate a positive but low average of teacher-student relations (SD=0.36). In general, based on the views of school principals and students, it can be said that the independent variables show a low relative school climate average.

Table 2

*Descriptive statistics for dependent and independent variables*

| Measures | *M* | *SD* | *Min* | *Max* |
|---|---|---|---|---|
| Students leaving without certificate | 4.23 | 6.88 | 0 | 43.00 |
| Teacher-related factors affecting school climate | -0.223 | 1.09 | -3.586 | 2.853 |
| Student-related factors affecting school climate | -0.243 | 1.01 | -3.256 | 2.752 |
| Teacher morale | -0.300 | 1.07 | -3.093 | 1.446 |
| Disciplinary climate | -0.069 | 0.38 | -1.070 | 1.050 |
| Teacher-student relations | 0.188 | 0.36 | -1.040 | 2.160 |

Table 3 displays the bivariate correlations of the dependent and independent variables. Except for teacher-student relations, teacher- and student-related factors affecting school climate were negatively and moderately correlated with the proportion of early leavers (r=-0.37;-0.38). Additionally, teacher morale (r=-0.14), and disciplinary climate (r=-0.21) had a negative and low correlation with the proportion of early leavers.

The correlations between the independent variables ranged significantly from 0.14 to 0.65. The strongest association existed between student-related factors and teacher-related factors affecting school climate which were positively and strongly associated (r=0.65). Following that, teacher morale was modestly correlated with teacher-related factors (r=0.45) and student-related factors affecting school climate (r=0.35). Similarly, disciplinary climate was modestly correlated with student-related factors affecting school climate (r=0.40). However, teacher-student relations were lowly correlated with student-related factors affecting school climate, teacher morale, and disciplinary climate (r= 0.14 to 0.22).

Table 3

*Bivariate correlation matrix of variables*

| Variable | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1) Students leaving without certificate | | | | | | |
| 2) Teacher-related factors affecting school climate | -0.37** | | | | | |
| 3) Student-related factors affecting school climate | -0.38** | 0.65** | | | | |
| 4) Teacher morale | -0.14* | 0.45** | 0.35** | | | |
| 5) Disciplinary climate | -0.21** | 0.19* | 0.40** | 0.22** | | |
| 6) Teacher-student relations | **-0.06** | **0.10** | 0.17* | 0.14* | 0.22** | |

**p<0.01 *p<0.05 ; The values indicated in bold are not significant

Teacher-related factors affecting school climate, student-related factors affecting school climate, teacher morale, disciplinary climate, and teacher-student relations were used to predict early leavers. Table 4 presents the results of the multiple regression analysis to predict early leavers by school climate.

The prediction model was statistically significant, $F$ (5.150)=6.575, p<0.001, and accounted for approximately 18% of the variance of early leavers ($R^2$=0.180). Teacher-related factors affecting school climate were relatively the strongest predictor of early leavers ($\beta$=-0.241). Similarly, student-related factors affecting school climate were a significant predictor of early leavers ($\beta$= -0.210). The findings suggest that teacher- and student-related factors hinder learning to a lesser extent and tend to prevent early leavers.

The estimated linear regression equation is as follows:

EARLY_LEAVERS= 3.473 - 1.52TEACCLIM - 1.424STUDCLIM
+0.376TCMORALE -1.773DISCLIMA +0.279STUDREL

As illustrated in the regression equation, covering raw regression coefficients, teacher-related factors affecting school climate are associated with a partial regression coefficient of -1.52 signifying that every additional point in the teacher-related factors affecting school climate predicts a decrement of 1.52 in the proportion of early leavers.

In parallel, student-related factors affecting school climate are associated with a partial regression coefficient of -1.424 indicating that every additional point in the student-related factors affecting school climate predicts a decrement of 1.424 in the proportion of early leavers.

Table 4

*Multiple regression analysis for predicting early leavers by school climate*

| Variable | *B* | SE *B* | *B* |
|---|---|---|---|
| Constant | 3.473 | 0.620 | |
| Teacher-related factors affecting school climate (TEACCLIM) | -1.520 | 0.650 | -0.241* |
| Student-related factors affecting school climate (STUDCLIM) | -1.424 | 0.708 | -0.210* |
| Teacher morale (TCMORALE) | 0.376 | 0.543 | 0.058 |
| Disciplinary climate (DISCLIMA) | -1.773 | 1.505 | -0.098 |
| Teacher-student relations (STUDREL) | 0.279 | 1.472 | 0.014 |

*Note:* The dependent variable was early leavers (students leaving without certificate)
R=0.424 ; $R^2$=0.180; $F(5.150)=6.575$ *p<0.05

## Discussion

Unquestionably, ESL is a serious problem that should be dealt with in the school system. Coping with such complex structures and developing policies for reducing the problem entails the study of various scientific data and information. When investigating the literature, it seems that little attention has been given to the school climate as a predictor of ESL. In this regard, the main question, "to what extent does school climate predict the proportion of students leaving without a certificate?" was addressed.

The results of the present study suggest that teacher- and student-related factors affecting school climate were negatively and moderately correlated with the proportion of early leavers (r=-0.37; -0.38). Additionally, teacher morale (r= -0.14), and disciplinary climate (r= -0.21) had a negative and low correlation with the proportion of early leavers. The strongest association existed between student-related factors and teacher-related factors affecting school climate, which were positively and strongly associated (r=0.65). In this regard, school climate factors can strongly impact each other among the main actors in education, i.e. students and teachers. Consequently, endeavors enhancing teacher-related factors, for instance encouraging students to achieve their full potential, positive and high expectations of students, teacher attendance, etc., will have a positive impact on students in terms of developing the required school climate. Following this, teacher morale was modestly correlated with teacher-related factors (r=0.45) and student-related factors affecting school climate (r=0.35). Similarly, disciplinary climate was modestly correlated with student-related factors affecting school climate (r=0.40). Concordantly, order, safety, and discipline; fairness and clarity of school rules; and teacher-student relationships can be seen as three aspects of students' perceived school climate (Fan et al., 2011). However, in this study, teacher-student relations had a low correlation with student-related factors affecting school climate, teacher morale, and disciplinary climate (r= 0.14 to 0.22).

The model established with the factors (*teacher-related factors affecting school climate, student-related factors affecting school climate, teacher morale, disciplinary climate,* and

*teacher- student relations*) for predicting ESL was statistically significant and accounted for approximately 18% of the variance of early leavers. Teacher-related factors affecting school climate were relatively the strongest predictor of ESL. Similarly, student-related factors affecting school climate were a significant predictor of ESL. These findings suggest that teacher- and student-related factors hinder learning to a lesser extent and tend to prevent ESL. Nonetheless, ESL is a heterogonous phenomenon (Brunello & De Paola, 2013), and it can derive from a logical outcome of unhappiness, difficulties with teachers, peers, learning generally, or being expelled (McKeown & Fitzgerald, 2006). It is also difficult to claim that only a few factors strongly affect ESL. Exogenous (e.g., socio-economic conditions, gender, ethnic origin or cultural capital of families, etc.) and endogenous factors (curriculum contents, subjective evaluation procedures determining final certificates) are involved in affecting ESL (Vallejo & Dooly, 2013). Therefore, adding other factors to the model investigated in the present study can considerably change the accounting for the variance of ESL.

### *Limitations*

The present study has a few limitations: despite mainly focusing on ESL, the data was not supplied from students/individuals with ESL. Instead, school principals' report on the question "Students leaving without certificate (SC23Q01)" in the PISA 2012 study was used as a predicted variable. The perceptions of school principals and students in the PISA 2012 Turkey sample on factors related to school climate were used as predictor variables. In turn, the results of this study should be considered in terms of the prediction of ESL (the proportion of students leaving without a certificate) by school climate.

## Conclusions

Teacher- and student-related factors affecting school climate were negatively and moderately correlated with the proportion of early leavers. Teacher morale and disciplinary climate had a negative and low correlation with the proportion of early leavers. The strongest association existed between student-related factors and teacher-related factors affecting school climate and were positively and strongly associated. Following that, teacher morale was modestly correlated with teacher-related factors and student-related factors affecting school climate. Similarly, disciplinary climate was modestly correlated with student-related factors affecting school climate. However, teacher-student relations were lowly correlated with student-related factors affecting school climate, teacher morale, and disciplinary climate. School climate accounted for approximately 18% of the variance of ESL. Teacher-related factors affecting school climate were relatively the strongest predictor of ESL. Similarly, student-related factors affecting school climate were a significant predictor of ESL. These findings suggest that teacher- and student-related factors hinder learning to a lesser extent and tend to prevent ESL.

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# Školska klima kao prediktor ranog prekida školovanja


## Sažetak

*Uvidom u literaturu stječe se dojam da je malo pozornosti posvećeno školskoj klimi kao prediktoru ranog prekida školovanja (RPŠ). Glavni cilj ovog istraživanja bio je odgovoriti na pitanje do koje se mjere, polazeći od školske klime, predviđa koliko će učenika napustiti školu bez diplome. Podaci OECD-a korišteni u istraživanju obuhvaćali su 170 škola/ravnatelja i 4848 učenika iz Turske. Kao predviđena varijabla korišteni su izvještaji ravnatelja o „učenicima koji odlaze bez diplome" iz istraživanja PISA 2012. Percepcije ravnatelja i učenika iz njegova turskog uzorka o čimbenicima povezanim sa školskom klimom korištene su kao varijable predviđanja (višestruka linearna regresijska analiza). Rezultati su pokazali da su čimbenici koji utječu na školsku klimu, a povezani su s nastavnikom i učenikom, u umjerenoj korelaciji s udjelom učenika koji rano prekidaju školovanje. Nastavnikov moral i disciplinska klima u slaboj su korelaciji s tim istim udjelom. Najčvršća je povezanost utvrđena između učenikovih i nastavnikovih čimbenika koji utječu na školsku klimu; ona je ujedno pozitivna. Na školsku klimu otpada oko 18 % varijance RPŠ. Navedeni rezultati sugeriraju da nastavnikovi i učenikovi čimbenici u manjoj mjeri ometaju učenje i nastoje spriječiti rano prekidanje školovanja.*


**Ključne riječi**: *školska klima; Turska; učenici koji rano prekidaju školovanje; višestruka linearna regresijska analiza.*

## Uvod

Rani prekid školovanja (RPŠ) može se opisati kao složen problem koji proizlazi iz osobnih, društvenih, ekonomskih, obrazovnih ili obiteljskih razloga. Osim napora školskih zaposlenika on podrazumijeva sveobuhvatan pristup (Europska komisija, 2013). Vallejo i Dooly (2013), štoviše, objašnjavaju da na njegovu strukturu utječu egzogeni (npr. društveno-ekonomski uvjeti, spol, etničko podrijetlo ili obiteljski kulturni kapital itd.) i endogeni čimbenici (kurikularni sadržaj, postupci subjektivne evaluacije koji definiraju završne diplome itd.). Tukundane, Zeelen, Minnaert, i Kanyandago (2014) tumače rani prekid školovanja kao loše iskustvo i traumu s posljedicama po učenikov osjećaj vlastite vrijednosti, usmjeravajući ga prema ograničenim životnim mogućnostima i isključenosti iz društva.

Loš je uspjeh u školi najčešće glavni čimbenik rizika kada su u pitanju budući psihosocijalni problemi mladih (Berlin, Vinnerljung, i Hjern, 2011). U istraživanju koje su proveli McKeown i Fitzgerald (2006) učenici koji su rano napustili školu u Ballymunu i Mayou kao razloge su naveli logične posljedice nezadovoljstva koje su iskusili zbog poteškoća s nastavnicima i prijateljima, učenje općenito ili isključenje. „Slabije obrazovani su u dvostrukoj nemilosti" uslijed fleksibilnijeg tržišta rada (de Lange, Gesthuizen, i Wolbers, 2012). Učenici koji napuste školu također se podvrgavaju riziku da ne steknu nikakvo stručno obrazovanje i budu lišeni stalnog zaposlenja tijekom radnog vijeka (Gaupp, Lex, i Reissig, 2008). Kysel, West, i Scott (1992) istraživali su uzroke zbog kojih su učenici u istočnom dijelu Londona odustajali od obrazovanja kao i učinke takve odluke. Utvrdili su disproporcionalno da pripadnici bijele rase, muškog spola i radničke klase nastoje napustiti obrazovni sustav na kraju pete godine. James i Lawlor (2001) ustanovili su da učenice pokazuju veće probleme nego učenici te da se nastoje više izlagati riziku pa same sebi nanose štetu. No, mišljenje roditelja može značajno oblikovati stajališta djece o školi zahvaljujući njihovu angažmanu u školi i donošenju odluka o mjestu stanovanja i upisu u školu (Schueler, Capotosto, Bahena, McIntyre, i Gehlbach, 2014).

Rješavanje problema ranog prekida školovanja ili njegovo ublažavanje može dovesti do znatnih društvenih, psiholoških ili ekonomskih prednosti, kao što je „integriranje mladih u tržište rada putem prekida ciklusa deprivacije koja uzrokuje isključenost prevelikog broja mladih iz društva" (Europska komisija, 2013). Budući da je rani prekid heterogena pojava, ono što zauzvrat nudi obrazovanju inherentno je također heterogeno (Brunello i De Paola, 2013).

Iako donekle društveno uvjetovan, RPŠ ozbiljan je problem koji treba rješavati unutar školskog sustava, stoga su se države članice, u okviru Europske suradnje u obrazovanju i stručnom usavršavanju, ET2020, dogovorile da bi do 2020. godine udio onih koji rano napuste sustav trebao biti manji od 10 %, što bi pridonijelo tome da maksimalan broj učenika završi neki oblik obrazovanja i stručnog usavršavanja (Vijeće Europske unije, 2009).

Da bi se problem ranog prekida školovanja riješio, potrebno je provoditi uspješne politike. Prema izvješću o ranom prekidu školovanja, što ga je izradila tematska radna skupina Europske komisije (2013, str. 4), takve se politike mogu sažeti na sljedeći način:

> "*dugoročno osigurati politički i financijski angažman; osigurati središnju ulogu djeci i mladima u svakoj politici; razvijati i primjenjivati održivu nacionalnu strategiju; ulagati u stjecanje temeljne spoznaje o ranom prekidu školovanja; uspostaviti snažnu, dugoročnu suradnju između nacionalnih, regionalnih/lokalnih vlasti i subjekata; ukloniti prepreke unutar školskog sustava; dati potporu školama da razvijau poticajne sredine za učenje; promovirati i podržavati timove čiji su članovi različitih profesionalnih usmjerenja, a koji će pristupiti problemu ranog prekida u školama; promicati snažnu predanost svih subjekata ublažavanju problema ranog prekida školovanja; osigurati zaposlenike koji će pružati različite oblike podrške*

*pri učenju; omogućiti mladima pristup savjetodavnim sustavima kroz koje će im se osigurati emocionalna i praktična potpora; učiniti načine davanja druge šanse pristupačnijima za sve mlade ljude*".

Koristeći se EU-SILC podacima iz 2005. godine, van Alphen (2012) je utvrdio da „uključenost u državni obrazovani sustav smanjuje negativan učinak ranog prekida školovanja na prihod". Potrebno je razmotriti bolji angažman učenika i nasilje kao čimbenik školske klime (Mehta, Cornell, Fan, i Gregory, 2013). Stvaranje održivog nastavnog okruženja može osobito imrati značajnu ulogu u prevenciji namjernog i/ili nenamjernog isključivanja i marginaliziranja učenika (Mahlomaholo, 2012).

McEvoy i Welker (2000, str. 138-139) predložili su nekoliko obećavajućih praktičnih rješenja za prevenciju na razini škole i intervenciju u slučaju učenika kojima prijeti rizik od školskog neuspjeha i antisocijalnog ponašanja:

1) Pedagozi trebaju otkriti neučinkovite oblike primjene da bi spriječili antisocijalno ponašanje i probleme u školi i eliminirati ih ili modificirati.
2) Škole trebaju utvrditi odgovarajuće načine vrednovanja kako bi rano otkrile probleme u ponašanju i potrebne akademske vještine.
3) Polazeći od istraživanja, škole trebaju razviti širi pristup unapređenju klime za učenje.
4) Istaknuti kadrovsko usavršavanje kao jedan od glavnih prioriteta u školi, te ga uskladiti s postavljanjem ciljeva i izradom programa.
5) Predvidjeti više vremena za kontakt odraslih i djece.

Unatoč istraživanjima koja se poglavito bave mogućim uzrocima ranog napuštanja škole, do sada je malo poznato o iskustvima i društvenoj pozadini toga fenomena (Tukundane i sur., 2014). Rezultati tog istraživanja stoga mogu pridonijeti osobito razvoju politike s ciljem umanjenja problema.

## *Školska klima*

Posljednjih godina brojne domaće i inozemne institucije u području obrazovanja (npr. Američki odjel za obrazovanje, Centar za kontrolu i prevenciju bolesti, Institut za odgojne znanosti, sve veći broj državnih obrazovnih odjela, strana ministarstva obrazovanja i UNICEF) pridaju pozornost promjeni školske klime tako što potiču učenike, roditelje/skrbnike i školsko osoblje da zajednički uče i rade kako bi stvorili sigurnije, poticajnije i angažiranije K-12 škole (Thapa, Cohen, Guffey, i Higgins-D'Alessandro, 2013). Smatrana vitalnim aspektom učinkovite škole, školska je klima slogan za bolju školu (Hoy i Hannum, 1997).

Govoreći o kvaliteti i prirodi života u školi, školska se klima odnosi na „obrasce iskustava što ih pojedinci imaju sa životom u školi, a odražava norme, ciljeve, vrijednosti, međuljudske odnose, nastavne prakse i organizacijske strukture"(Cohen, McCabe, Michelli, i Pickeral, 2009). Calik i Kurt (2010) opisali su školsku klimu kao organizacijsko obilježje koje ima učinak na nastavnike, učenike i ravnatelje, te roditelje na koje spomenuti subjekti utječu. Štoviše, smatra se da su škole slične ljudima, sa

svojim karakterističnim obilježjima ili klimama (Welsh, 2000). Školska klima ukazuje na fizičke i fiziološke aspekte škole te omogućuje nastavne preduvjete (Kartal i Bilgin, 2009).

Školska je klima složena struktura koja obuhvaća više dimenzija: procjenu i prepoznavanje, kurikularnu koordinaciju, učinkovitu disciplinsku politiku, prevelike radne zahtjeve, podudaranje ciljeva, sudjelovanje u odlučivanju, profesionalni razvoj, profesionalnu interakciju, jasnu ulogu, učeničku orijentaciju, poticajno vođenje (Hart, Wearing, Conn, Carter, i Dingle, 2000); odnose između nastavnika i učenika, odnose između učenika i učenika, nepristrana pravila, sklonost prema školi, sigurnost u školi (Bear, Gaskins, Blank, i Chen, 2011); podjelu resursa, red i disciplinu, uključenost roditelja, izgled školske zgrade, učeničke međuljudske odnose (Suldo, McMahan, Chappel, i Loker, 2012); odnose između roditelja i zajednice, upravu, vrijednosti u ponašanju učenika (Grayson i Alvarez, 2008); odnose, učenje i poučavanje, institucijsko okruženje, proces unapređenja škole (Thapa i sur., 2013); školsku problematiku, nastavnike (Trianes i sur., 2006); neslogu, povezanost, natjecanje među učenicima, zadovoljstvo nastavom (Loukas i Murphy, 2007); nastavnikovu potporu, međusobnu potporu učenika i mogućnosti postizanja samostalnosti u razredu (Jia i sur., 2009).

Određeni broj istraživanja bio je usredotočen na učinak što ga školska klima ima na ponašanje i školski uspjeh, osobito u onim školama koje su izrazito siromašne (Hopson i Lee, 2011). Budući da se školska klima odnosi na razne fizičke i psihosocijalne dimenzije koje određuju društveno-fizičko okruženje škole (Parcel i sur., 2003), nesporno je da će jedna takva struktura igrati značajnu ulogu u prevenciji rizičnog ponašanja učenika, dovodeći do boljeg razumijevanja i sprečavanja školskog nasilja (Klein, Cornell, i Konold, 2012; Welsh, 2000). Može se također promatrati kao značajan čimbenik boljeg ishoda učenja (Kartal i Bilgin, 2009). Međutim, ona nije nužna samo za razvoj učenika i akademski uspjeh već i za postizanje boljeg ozračja za zajednički život u školi (Gazquez, Perez, i Carrion, 2011).

Koth, Bradshaw, i Leaf (2008) utvrdili su da su individualni čimbenici (rasa i spol), školski čimbenici (npr. veličina škole i fluktuacija nastavnika) i nekoliko razrednih čimbenika (npr. obilježja nastavnika, veličina razreda i koncentracija učenika s problemima u ponašanju) značajni prediktori uočene školske klime. Osim toga, školska je klima najsnažniji prediktor školskog morala, bijede (Burns i Machin, 2012); uglavnom veće predanosti nastavnika profesionalnim obvezama, njihove buduće predanosti u stručnom i organizacijskom smislu (Collie, Shapka, i Perry, 2011); zadovoljstva nastavnika poslom (Taylor i Tashakkori, 1995); društvenih vještina u prvom i drugom razredu, te uspjeha u matematici i čitanju u prvom razredu (Esposito, 1999).

Školska se klima značajno povezuje sa stresom u školi i simptomima depresije (Buddeberg-Fischer, Klaghofer, Leuthold, i Buddeberg, 2000; Liu i Lu, 2012); uočenim nasiljem u školi (Ozdemir, Sezgin, Sirin, Karip, i Erkan, 2010); učinkovitom prevencijom nasilja, razvojem zdravlja kod učenika, zadržavanjem nastavnika (Cohen

i sur., 2009); moralom nastavnika (Hart i sur., 2000); mentalnim zdravljem učenika (Suldo i sur., 2012), redom, sigurnošću i disciplinom; pravednim i jasnim školskim pravilima; odnosom između nastavnika i učenika (Fan, Williams, i Corkin, 2011); školskim uspjehom (Hopson i Lee, 2011; Hoy i Hannum, 1997; Luo, Huang, i Najjar, 2007; West, 1985); upravom, plaćama, mogućnostima usavršavanja, napredovanjem, fizičkim uvjetima (Pan i Qin, 2007); sposobnošću suosjećanja nakon stjecanja diplome (Simmons i Cavanaugh, 2000); pregorijevanjem (Grayson i Alvarez, 2008); rezultatima nastavnikova zadovoljstva poslom (Nalcaci, 2012); viktimizacijom nastavnika (Gottfredson, Gottfredson, Payne, i Gottfredson, 2005); roditeljskim upletanjem, zlostavljačkim ponašanjem (Lee i Song, 2012); zadovoljstvom adolescenata životom (Lopez, Perez, Ochoa, i Ruiz, 2008); učeničkim problemima s emocijama i ponašanjem (Somersalo, Solantaus, i Almqvist, 2002); društvenoekonomskim statusom, (McEvoy i Welker, 2000); zlostavljačkim ponašanjem (Mehtai sur., 2013; Raskauskas, Gregory, Harvey, Rifshana, i Evans, 2010; Wang, Berry, i Swearer, 2013) i aktivnim sudjelovanjem učenika u školskim aktivnostima (Chen, Lin, Wang, Lin, i Kao, 2012).

Kada se istražuje literatura. stječe se dojam da je malo pažnje usmjereno na školsku klimu kao prediktor ranog prekida školovanja. Pritom se postavlja glavno pitanje do koje mjere školska klima predviđa razmjere učeničkog odlaska prije stjecanja diplome. Slijede dodatna potpitanja.

Do koje mjere:

1) čimbenici povezani s nastavnikom koji utječu na školsku klimu dovode do odlaska učenika prije stjecanja diplome
2) čimbenici povezani s učenikom koji utječu na školsku klimu dovode do odlaska učenika prije stjecanja diplome
3) nastavnikov moral koji utječe na školsku klimu dovodi do odlaska učenika prije stjecanja diplome
4) disciplinska klima u školi utječe na odlazak učenika prije stjecanja diplome
5) odnosi između nastavnika i učenika koji utječu na školsku klimu dovode do odlaska učenika prije stjecanja diplome?

## Metoda

### *Uzorak*

U ovom su istraživanju sudjelovali ravnatelji i učenici iz projekta PISA 2012 za Tursku. Podaci OECD-a korišteni u istraživanju obuhvaćali su 170 škola/ravnatelja i 4848 učenika. Tablica 1 prikazuje distribuciju podataka za škole/ravnatelje i učenike po određenim deskriptivnim karakteristikama. Škole su se nalazile u selima (n=8; 4,7 %), gradićima (n=20; 11,8 %), gradovima (n=51; 30 %), još većim urbanim sredinama (n=46; 27,1 %), velegradovima (n=45; 26.5 %). Samo su dvije škole bile privatne. Škole su bile uglavnom srednje (n=151; 88,8%), a zatim osnovne (n=19; 11,2 %).

U skladu s tim veći je dio učenika obuhvaćenih podacima OECD-a bio iz srednjih škola (n= 4728; 97,5 %), a vrlo mali dio činili su učenici osnovnih škola (n=120; 2.5 %).

Od ukupnog broja učenika obuhvaćenih podacima OECD-a 13,7 % (n=664) navelo je da ponavlja razred. Nadalje, 70 % učenika (n=3395) navelo je da nije bilo uključeno u predškolsko obrazovanje <ISCED O>; samo 21 % njih (n=1019) naveo je da je bio uključen jednu godinu ili manje, a 8.4 % učenika (n=407) navelo je više od godinu dana. Učenici su najvećim djelom pohađali 10. razred (n=3202; 66 %).

Tablica 1

## *Mjerni instrumenti*

### Zavisna varijabla

„Učenici koji napuštaju školu prije stjecanja diplome (SC23Q01)" iz baze podataka OECD PISA 2012 odabran je kao zavisna varijabla za potrebe ovog istraživanja. U istraživanju PISA-2012 anketirani su ravnatelji o tome „koliko je učenika napustilo školu prije stjecanja diplome ili kvalifikacija koje omogućuju upis na sveučilište, tehničko, daljnje ili stručno obrazovanje, naukovanje ili zapošljavanje ". U ovom su istraživanju ti podaci uzeti kao zavisne varijable.

### Nezavisne varijable

U ovom su istraživanju kao nezavisne varijable korišteni indeksi (5) koji definiraju školsku klimu prema OECD-u. Slijede objašnjenja svakog od njih.

#### Disciplinska klima

U istraživanju PISA 2012 učenicima je postavljeno pitanje „koliko se često sljedeće događa na satovima matematike (npr. učenici ne slušaju što im nastavnik govori; učenici ne počinju raditi dugo nakon početka sata; u učionici je buka i nered, itd.)". Varijable su kodirane prema OECD-u (2014) na sljedeći način: 1= na svakom satu; 2=na većini satova; 3=na nekim satovima; 4=nikada ili jedva ikada. OECD (2014) ju je također kodirao obrnutim redoslijedom, što je značilo (1=0), (2=1), (3=2), (4=3), a ukupan je rezultat dobiven kao omjer između svih odgovora i maksimalno postignutog broja. OECD je transformirao odgovore u *indeks disciplinske klime (*DISCLIMA*)* čija je srednja vrijednost bila 0, a standardna devijacija 1. Veće vrijednosti ukazuju na bolju percepciju učenika (OECD, 2013).

#### Odnosi između nastavnika i učenika

U istraživanju PISA 2012 učenicima je postavljeno pitanje „U kojoj se mjeri slažete sa sljedećim izjavama vezanima uz nastavnike u vašoj školi (npr. dobro se slažu s nastavnicima; nastavnici ozbiljno uzimaju u obzir učenike; nastavnici učeniku daju potporu ako mu je potrebna dodatna pomoć, itd.)". Kodiranje varijable prema OECD-u (2014) bilo je sljedeće: 1=veoma se slažem; 2=slažem se; 3=ne slažem se; 4=veoma se ne slažem. Osim toga, OECD (2014) je istu kodirao obrnutim redoslijedom kao (4=0), (3=1), (2=2), (1=0), a ukupni je rezultat proizašao iz omjera zbroja svih odgovora i maksimalnog rezultata. OECD je transformirao odgovore u *indeks odnosa između nastavnika i učenika* (STUDREL), pri čemu je srednja vrijednost bila 0, a

standardna devijacija 1. Više vrijednosti odražavaju pozitivnu percepciju učenika o njihovim odnosima s nastavnicima (OECD, 2013).

**Nastavnikov moral**

OECD se koristio odgovorima ravnatelja o moralu nastavnika (npr. *moral nastavnika u ovoj školi je na visokoj razini; nastavnici rade s entuzijazmom; nastavnici vrednuju školska postignuća, itd.*) da bi kreirao *indeks nastavnikovog morala* (TCMORALE) čija je srednja vrijednost bila 0, a standardna devijacija 1. Četiri kategorije odgovora obuhvaćale su raspon od „veoma se slažem", „slažem se" do „ne slažem se" i „veoma se ne slažem". Sve su te stavke kodirane obrnutim redoslijedom. Pozitivne vrijednosti odražavaju viši nastavnikov moral, a negativne vrijednosti pokazuju slabiji nastavnikov moral prema percepciji ravnatelja (OECD, 2013).

**Nastavnikovi čimbenici koji utječu na školsku klimu**

U istraživanju PISA ravnatelji su upitani „do koje mjere smatrate da učenje u vašoj školi ometaju sljedeći čimbenici (npr. učenici nisu potaknuti na ostvarenje svojih potencijala u potpunosti; nastavnik ima slaba očekivanja od učenika; nastavnikovo odsustvo)". Bile su četiri kategorije odgovora: „ne uopće", „vrlo malo", „do određene mjere" i „mnogo". Odgovore koji su sadržavali stajališta ravnatelja OECD je transformirao u *indeks nastavnikovih čimbenika koji utječu na školsku klimu (*TEACCLIM). Njegova je srednja vrijednost iznosila 0, a standardna devijacija 1. Pozitivne vrijednosti indeksa pokazuju da nastavnikovi čimbenici otežavaju učenje u manjoj mjeri, a njegove negativne vrijednosti upućuju na to da je njihov utjecaj veći, sudeći prema stajalištima ravnatelja (OECD, 2013).

**Učenikovi čimbenici koji utječu na školsku klimu**

Ravnateljima je bilo postavljeno pitanje „do koje mjere učenje u vašoj školi ometaju učenikovi čimbenici (npr. učenikovo izbjegavanje nastave, učenikovo nepoštivanje nastavnika, međusobno zastrašivanje ili zlostavljanje učenika)". Odgovori su kategorizirani u četiri skupine: „uopće ne", „vrlo malo", „donekle" i „mnogo". OECD je transformirao njihove odgovore u *indeks učenikovih čimbenika koji utječu na školsku klimu* (STUDCLIM). Budući da mu je srednja vrijednost bila 0, a standardna devijacija 1, pozitivne vrijednosti ukazuju na to da učenici manje ometaju učenje, a negativne vrijednosti pokazuju da to čine u većoj mjeri, sudeći prema stajalištima ravnatelja (OECD, 2013)

## *Postupak*

Da bi se postavila istraživačka pitanja, pristupilo se analizi upitnika za ravnatelje i učenike iz opsežnog istraživanja PISA 2012, kao i izvješća o njemu, svezak IV (OECD, 2013). Nakon što su utvrđena pitanja i određeni indeksi u pripremi OECD-a, odabrana je baza podataka za profesionalne istraživače koja je dostupna na službenim mrežnim stranicama OECD PISA (turski uzorak) te su podaci podvrgnuti kvantitativnoj

analizi pomoću SPSS® računalnog programa. Pri toj je analizi kao glavni predložak korištena školska datoteka s odgovorima ravnatelja (na temelju OECD-a). Prosječne su vrijednosti za indekse DISCLIMA i STUDREL, koji su sadržavali odgovore iz datoteke za učenike, izračunate prema školskom ID-u. Na taj su način izračuni prosječnih vrijednosti za indekse DISCLIMA i STUDREL po školama spojeni u školsku datoteku kao nove varijable.

Prije analize podataka prema istraživačkim pitanjima pristupilo se provjeri pretpostavki o regresijskoj analizi. Stoga su pretpostavke vrednovane prema tome jesu li varijable koje će sudjelovati u regresijskom modelu važne u relevantnoj literaturi; jesu li varijable dostupne u smislu kontinuiranih ili gotovo kontinuiranih podataka; postoji li nedostatak multikolinearnosti; te jesu li varijable u spomenutom modelu linearno povezane (Starkweather i Herrington, 2014). Kada se određivala Mahalanobisova distanca, izračuni temeljeni na asimetriji (1,541) i spljoštenosti (2,670) nisu pokazali multivarijantne anomalije. Osim toga, pri određivanju linearnih odnosa činilo se da normalni P-dijagram regresijskih standardiziranih vrijednosti i histogram standardiziranih rezidualnih vrijednosti podržavaju pretpostavke linearnih odnosa. Posljedica je toga da se koristila višestruka linearna regresijska analiza (MLRA) za predviđanje RPŠ u odnosu na školsku klimu.

## Rezultati

### *Deskriptivna statistika*

Tablica 2 prikazuje deskriptivnu statistiku za zavisne i nezavisne varijable. Kada se pogledaju zavisne varijable primjetno je da su ravnatelji izvijestili o tome kako se raspon učenika koji napuštaju školu prije stjecanja diplome kreće od 0 % do 43 %, kao i to da je rano prekidanje školovanja u prosjeku na niskoj razini (M=4,23; SD= 6,88). Nastavnikovi čimbenici koji utječu na klimu u školi kreću se od -3,58 do 2,85. Slično tome, učenikovi čimbenici koji utječu na klimu u školi imaju raspon od -3,25 do 2,75. Raspon nastavnikova morala također je između -3,09 i 1,44 prema stajalištima ravnatelja. Te tri nezavisne varijable proistekle iz stajališta ravnatelja imaju negativni prosjek sa standardnom devijacijom 1. No, odgovori učenika pokazuju da se disciplinska klima kreće od -1,07 do 1,05, a u slučaju odnosa između nastavnika i učenika taj je raspon između -1,04 i 2,16. Stajališta učenika imaju negativni prosjek za disciplinsku klimu (SD=0,38), a pozitivan iako slab prosjek za odnos između nastavnika i učenika (SD=0,36). Polazeći od stajališta ravnatelja i učenika, može se općenito reći da nezavisne varijable pokazuju relativno nizak prosjek za školsku klimu.

Tablica 2

Tablica 3 pokazuje bivarijantne korelacije za zavisne i nezavisne varijable. Osim u slučaju odnosa između nastavnika i učenika, nastavnikovi i učenikovi čimbenici koji utječu na školsku klimu bili su negativni i umjereno su korelirali s udjelom onih koji rano prekidaju školovanje (r=-0,37; -0,38). Nadalje, nastavnikov moral (r=-0,14) i disciplinska klima (r= -0,21) bili su u negativnoj i slaboj korelaciji s njihovim udjelom.

Korelacije između nezavisnih varijabli značajno su se kretale između 0,14 i 0,65. Najjača povezanost postojala je između učenikovih i nastavnikovih čimbenika koji utječu na školsku klimu, bili su u pozitivnoj i snažnoj korelaciji (r=0,65). Nastavnikov moral umjereno je korelirao s nastavnikovim (r=0,45) i učenikovim čimbenicima koji utječu na školsku klimu (r=0,35). Slično tome, disciplinska klima umjereno je korelirala s učenikovim čimbenicima koji utječu na školsku klimu (r=0,40). Međutim, odnosi između nastavnika i učenika slabo su korelirali s učenikovim čimbenicima koji utječu na školsku klimu, nastavnikov moral i disciplinsku klimu (r= 0,14 do 0,22).

Tablica 3

Nastavnikovi čimbenici koji utječu na školsku klimu, učenikovi čimbenici koji utječu na školsku klimu, nastavnikov moral, disciplinska klima i odnosi između nastavnika i učenika korišteni su kao prediktori ranog prekida školovanja. Tablica 4 prikazuje rezultate višestruke regresijske analize da bi se vidjelo koliko školska klima utječe na predviđanje o ranom prekidu školovanja.

Model predviđanja bio je statistički značajan $F$ (5,150)=6,575, p<0,001, oko 18% varijance pokriva RPŠ ($R^2$=0,180). Nastavnikovi čimbenici koji utječu na školsku klimu predstavljali su relativno najjači prediktor RPŠ ($\beta$= -0,241). Slično tome, učenikovi čimbenici koji utječu na školsku klimu bili su značajan prediktor RPŠ ($\beta$= -0,210). Ti rezultati upućuju na to da nastavnikovi i učenikovi čimbenici ometaju učenje u manjoj mjeri i teže spriječiti rani prekid školovanja.

Izračun jednadžbe linearne regresije jest sljedeći:

RANI_PREKID(UČENICI)= 3,473 - 1,520TEACCLIM - 1,424STUDCLIM +0,376TCMORALE -1,773DISCLIMA +0,279STUDREL

Kao što se vidi iz regresijske jednadžbe, koja obuhvaća sirove regresijske koeficijente, nastavnikovi čimbenici koji utječu na školsku klimu povezani su sa parcijalnim regresijskim koeficijentom od -1,520, to jest svaki dodatni bod u nastavnikovim čimbenicima koji utječu na školsku klimu znači predviđanje da će 1,520 od ukupnog broja učenika rano prekinuti školovanje.

Istodobno, učenikovi čimbenici koji utječu na školsku klimu povezani su s parcijalnim regresijskim koeficijentom od -1,424, ukazujući na to da svaki dodatni bod u učenikovim čimbenicima koji utječu na školsku klimu predviđa rano napuštanje škole 1,424 učenika u odnosu na njihov ukupan broj.

Tablica 4

## Rasprava

Neupitno je da rano prekidanje školovanja predstavlja ozbiljan problem koji treba razmatrati unutar školskog sustava. Bavljenje tako složenim strukturama i razvijanje politike s ciljem ublažavanja problema podrazumijeva istraživanje različitih znanstvenih podataka i informacija. Na temelju uvida u literaturu čini se da se malo

pažnje posvećuje školskoj klimi kao prediktoru ranog prekida školovanja. Postavljeno je stoga glavno pitanje: do koje mjere školska klima predviđa koliko će učenika napustiti školu prije stjecanja diplome?

Rezultati ovog istraživanja sugeriraju da su nastavnikovi i učenikovi čimbenici koji utječu na školsku klimu u negativnoj i umjerenoj korelaciji s brojem učenika koji rano prekidaju školovanje (r=-0,37; -0,38). Nadalje, nastavnikov moral (r= -0,14) i disciplinska klima (r=-0,21) negativno i slabo koreliraju u odnosu na spomenuti broj učenika. Najjača je povezanost između učenikovih i nastavnikovih čimbenika koji utječu na školsku klimu, njihova je korelacija pozitivna i snažna (r=0,65). U tom smislu čimbenici školske klime mogu imati snažan međusobni utjecaj među glavnim subjektima obrazovanja, nastavnicima i učenicima. Posljedica toga jesu nastojanja da se poboljšaju nastavnikovi čimbenici, npr. poticanje učenika da potpuno ostvare svoje mogućnosti, pozitivna i visoka očekivanja učenika, nastavnikova nazočnost i ostalo imat će pozitivan učinak na učenike kada je riječ o razvijanju željene klime u školi. Osim toga, nastavnikov moral bio je u umjerenoj korelaciji s nastavnikovim (r=0,45) i učenikovim čimbenicima koji utječu na školsku klimu (r=0,35). Slično tome, disciplinska klima umjereno je korelirala s učenikovim čimbenicima koji utječu na školsku klimu (r=0,40). U skladu s tim moguće je promatrati red, sigurnost i disciplinu; pravedna i jasna školska pravila; te odnose između nastavnika i učenika kao tri vida učenikove percepcije o školskoj klimi (Fan i sur., 2011). No, u ovom istraživanju odnosi između nastavnika i učenika bili su u slaboj korelaciji s učenikovim čimbenicima koji utječu na školsku klimu, nastavnikovim moralom i disciplinskom klimom (r= 0,14 to 0,22).

Model uspostavljen s pomoću navedenih čimbenika (*nastavnikovi čimbenici koji utječu na školsku klimu, učenikovi čimbenici koji utječu na školsku klimu, nastavnikov moral, disciplinska klima i odnosi između nastavnika i učenika*) s ciljem predviđanja ranog prekida školovanja bio je statistički značajan i pokrivao je 18% varijance u slučaju onih koji rano prekidaju školovanje. Nastavnikovi čimbenici koji utječu na školsku klimu bili su relativno najjači prediktor ranog napuštanja škole. Slično tome, učenikovi čimbenici koji utječu na školsku klimu bili su njegov značajan prediktor. Navedeni rezultati sugeriraju da nastavnikovi i učenikovi čimbenici koji utječu na školsku klimu ometaju učenje u manjoj mjeri te nastoje spriječiti spomenuti problem. Međutim, rani prekid školovanja heterogen je fenomen (Brunello i De Paola, 2013) i može biti logična posljedica nesreće, problema s nastavnicima, drugim učenicima, učenjem općenito ili isključenosti (McKeown i Fitzgerald, 2006). Teško je tvrditi da samo manji broj čimbenika ima snažan utjecaj na rani prekid školovanja. Egzogeni (npr. društvenoekonomski uvjeti, spol, etničko podrijetlo ili kulturni kapital u obitelji, itd.) i endogeni čimbenici (kurikularni sadržaj, postupci subjektivne evaluacije koji definiraju konačne diplome) uključeni su u postizanje učinka na RPŠ (Vallejo i Dooly, 2013). Prema tome, dodavanje ostalih čimbenika u model koji je predmet ovog istraživanja može značajno promijeniti pokrivenost varijance RPŠ.

### *Ograničenja*

Ovo istraživanje ima nekoliko ograničenja: unatoč fokusu na RPŠ, podaci nisu prikupljeni od učenika/pojedinaca suočenim s tim problemom. Umjesto toga, kao varijabla predviđanja korišteni su odgovori ravnatelja na pitanje o odlasku učenika iz škole bez diplome (SC23Q01) iz istraživanja PISA 2012. Percepcija ravnatelja i učenika koji su činili turski uzorak u istraživanju PISA 2012 o čimbenicima povezanim sa školskom klimom korišteni su kao prediktorske varijable. Samim time, potrebno je razmatrati rezultate istraživanja u odnosu na to kako školska klima predviđa RPŠ (udio učenika koji odlaze bez diplome).

## Zaključak

Čimbenici koji utječu na školsku klimu, a povezani su s nastavnikom i učenikom, u negativnoj su i umjerenoj korelaciji s udjelom učenika koji rano prekidaju školovanje. Nastavnikov moral i disciplinska klima u negativnoj su i slaboj korelaciji s tim istim udjelom. Najčvršća je povezanost utvrđena između učenikovih i nastavnikovih čimbenika koji utječu na školsku klimu; ona je ujedno pozitivna. Prema tome, nastavnikov moral u slaboj je korelaciji s nastavnikovim i učenikovim čimbenicima koji utječu na školsku klimu. Disciplinska je klima slično tome umjereno korelirana s učenikovim čimbenicima koji utječu na školsku klimu. No, odnosi između nastavnika i učenika u slaboj su korelaciji s učenikovim čimbenicima koji utječu na školsku klimu, nastavnikovim moralom i disciplinskom klimom. Na školsku klimu otpada oko 18% varijance RPŠ. Nastavnikovi čimbenici koji utječu na školsku klimu relativno su najsnažniji prediktor RPŠ, kao što su slično učenikovi čimbenici koji utječu na školsku klimu važan prediktor RPŠ. Navedeni rezultati sugeriraju da nastavnikovi i učenikovi čimbenici u manjoj mjeri ometaju učenje i nastoje spriječiti rano prekidanje školovanja.