



## The Effect of School Resources on Organization Climate at Upper Secondary Schools in Turkey<sup>1</sup>

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### Abstract:

*The purpose of this study was to determine the effect of the upper secondary schools' resources on organization climate. In this study, PISA (Programme for International Student Assessment) 2009 data were used, and the analyses were made upon the views of 150 school principals who were taken into Turkey sample. According to the dimensions of school resources, multiple regression analysis was used. When investigating the effect of school resources on organization climate; the four dimensions which were equipment resources, teacher resources, other personal resources and all resources were evaluated. In conclusion, according to the dimensions of school resources: equipment resources accounted 30 %, teacher resources accounted 31 %, other personal resources accounted 9 %, and all resources accounted 46 % of the total variance in organization climate.*

**Key Words:** PISA, Secondary school, Organization, Climate, Resource

### 1. Introduction

During recent years, improving the efficiency of schools has become a major focal point for educational planners and principals (UNESCO 2000, iii). The school environment or the climate in other words, should have appropriate features to

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achieve best outcomes with school inputs. An organization's climate can be seen as a key factor in explaining the innovativeness of employees. The organization with a good climate can improve effectiveness and make its employees more innovative than an organization with stressed climate does (Choudhury 2011, 112).

Organization climate is a result of social and organizational processes, and should be conceptualized as an organizational phenomenon. In this sense, organization climate is derived from organizational variables rather than psychological construction (Glick 1985, 605-613). It is also a measurement of organization's internal environment perceived by a person in or outside of organization (Choudhury 2011, 111; Spruill 2008, 17). One of the views supported widely on the definition on organization climate is that organization climate indicates an employee's perception about the organization and its features of which he or she works. Thus, employee's emotional evaluation and attitudes to organizational environment reveal organization climate (Churchill, Jr, Ford & Walker, Jr 1976, 324).

It can be said that there are four dimensions characterize organization climate. These are as follows: *the nature of interpersonal relationships, the nature of hierarchy, the nature of work, and the focus of support and rewards* (Schneider, Brief, & Guzzo 1996, 4). Organization climate includes the conditions emerged dominantly in various organizational activities. In turn, changing organizational climate is difficult because of many usual organizational elements (Schneider, Brief, & Guzzo 1996, 4).

There is a chain between developing organization and organizational climate. Because developing organization is dependent on organizational behavior, and organizational behavior is affected by each employee's behavior. And also it is possible that organizational behavior is affected by organizational climate (Choudhury 2011, 116).

The schools like other organizations have a unique climate. This climate emerges from an emotional dimension (Memduhoğlu & Şeker 2010, 7). School climate can be defined as a result of numerous actions and factors which may affect teacher and students (OECD 2009b, 40). In parallel, it emerges as a consequence both national and international endeavors in

improving the quality of life at the school for students and educators. In this sense, the health of learning environment and other dimensions needed to be improved are focus points of school climate (Freiberg 1999, 4-5).

The dimensions related to school climate can be given as follows: physical environment of school, social system of school, teacher behaviors/expectations for student outcomes (Freiberg 1999, 31). The elements of school climate seem extensive, complex and multidimensional. Additionally, school climate may influence students, parents, school personnel, and the community (Marshall 2004). NSCC (2012) suggests that school climate assessments needs to include safety, relationships, teaching and learning, and the external environment.

School climate has a considerable role in youth development and learning necessary for a productive, contributing and satisfying life in a democratic society. In such a climate, the following are seen (NSCC 2012): Norms, values and expectations that support people feeling socially, emotionally and physically safe; people are engaged and respected; students, families and educators work together to develop, live and contribute to a shared school vision; educators model and nurture attitudes that emphasize the benefits and satisfaction gained from learning; each person contributes to the operations of the school and the care of the physical environment.

Çalık et al. (2011, 81) explain the factors needed in creating positive school climate: supporting students by teachers and school administrators, students and teachers feeling themselves securely in the school, participating in decision processes, and focusing on achievement; determining and implementing school rules clearly, coherently and objectively; using new and various teaching methods by teachers.

It seems that there is a considerable relation between school climate and the factors consisted of safe schools. There is a positive climate in a safe school environment where meet the basic psychological needs of students (Çalık et. al 2011, 75). For that, it can be said that there is a safe school environment at the schools with positive climate.

Çetinkaya Yıldız et al. (2010) reveal that the perception on the school climate is a strong variable predicting aggressive

behaviors. Additionally, it can be said that those who perceive school climate as positive and supportive display aggressive behaviors lowly. And also, schools may affect students in terms of leaving schools because of their climate (European Parliament 2011, 46). It is clear that if teachers and school leaders pay little attention to school climate matters, serious consequences may appear (Preble et. al 2011, 14).

Newmann, Rutter & Smith (1989) demonstrate that school organizational features have a major influence on teacher-climate variables when school size, school location, the student skills at entrance, and percent of advantaged and disadvantaged students are controlled. In this regard, the strong effects are given as follows: regular behaviors of the students, promoting innovations, knowledge of teachers on another subject, responsiveness of school administrators, and helpfulness of teachers.

When considering good teaching exists in good climate, it seems that a considerable part of the endeavors and actions in the educational process should be engaged in improving school climate.

School climate may affect student achievement, and also it may be affected by student achievement. For that, it seems that there is interconnection between school climate and student achievement (Korkmaz 2005, 534). However, socio-economic background of students and learning environment have a major impact on student achievement across many countries including Turkey (OECD 2010, 54). This situation suggests that school climate in Turkey should be evaluated with socio-economic variables of schools as well as student achievements.

Schools have important role in teaching conformity, inhibiting individualism, enhancing creativity, developing independent thinking, fostering the mediocrity, and preventing discrimination. However, effectiveness of the schools in these dimensions depends on the quantity and quality of the resources supplied to students, and also personnel, curricula, and physical facilities (Spady 1973, 135).

The inputs of education can be considered simply as *school resources*, *teacher quality*, and *family attributes* (Hanushek 2007). Also expenditure per student, class size, teacher-student ratios, teacher quality measures (e.g.

experience, salary, or education) can be regarded as measure of school inputs (Heinesen & Graversen 2005, 111).

The findings derived from the result of analyzing educational indicators show that there are considerable imbalances among the regions and provinces, and even among the small cities (Çıngı vd. 2007, 376; MEB 2009, 52).

To achieve the educational aims, which are the reason of schools' existence, available environments where educational activities perform are needed. Such environments tend to be affected by family, environment, student, teacher, and other variables related to school. The variables related to school among them can be viewed as school's administration, structure, and opportunities (Ekinci & Burgaz 2009, 92). However, the problems aroused from these variables appear in the school climate directly or indirectly.

Most of the studies related school climate in Turkey has focused on the relations between the school administrators and teachers. Also in most previous studies the researchers have focused on three factors for conceptualizing the organizational climate. These factors are as follows: the quality of relations among the school administrators, teachers and students; the leadership of administrators; and achievement expectation (Çalık & Kurt 2010, 167).

According to the TALIS, Teaching and Learning International Survey, the lack of school resources hinder significantly the learning in Turkey. In turn, TALIS shows that school resources have important possible effects on the instruction. However, a considerable amount of literature on school resources has focused mostly on student achievement (Heinesen & Graversen 2005; Hægeland vd 2005; Gustaffson, 2003; Hakinken vd. 2003; Kurul Tural 2002; Ludwig & Bassi 1999; Hanushek 1996; Hanushek vd. 1996; Spady 1973; Levačić & Vignoles 2002). On the other hand, little attention is paid to linking school climate with school resources. Therefore, this study aims to fill this gap. In parallel, the results derived from this study seems important in terms of determining the effect of school resources on school climate, and understanding the possible effects on the school climate by means of improving those resources.

## 2. Method

This study is designed as a relational research since it aims to reveal the effect of school resources on school climate at upper secondary schools. The study group consists of 150 administrators taken into PISA 2009 sample.

In this study, PISA (Programme for International Student Assessment) 2009 data were used, and the analyses were made upon the views of 150 school principals who were taken into Turkey sample. The data consisting of school principals' views on the school resources and school climate items on the *PISA 2009 school questionnaire* were obtained from the OECD database located on <http://pisa2009.acer.edu.au/>.

School questionnaire implemented by OECD measures the following dimensions (OECD, 2009b, p. 163):

- The structure and organization of the school.
- The student and teacher body.
- The school's resources.
- The school's instruction, curriculum and assessment.
- The school climate.
- The school policies and practices.
- The characteristics of the principal or designate.

Among those dimensions, the data derived from *the school's resources* and *the school climate* builds up the base of study. During the PISA 2009 study, the questions asked for school principals on the part of *the school's resources* are given on the Table 1.

When determining the views of school principals regarding *the school's resources* given on the Table 1 in the PISA study, the four scale (1-not at all, 2- very little, 3- to some extent, 4- a lot) data collection tool was used.

**Table 1**

**PISA 2009 School questionnaire, the questions taken from the school's resources**

Q11. Is your school's capacity to provide instruction hindered by any of the following issues?	Not at All	Very little	To some extent	A lot
	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>

a) A lack of qualified science teachers

b) A lack of qualified mathematics teachers

c) A lack of qualified <test language> teachers

- d) A lack of qualified teachers of other subjects
- e) A lack of library staff
- f) A lack of other support personnel
- g) Shortage or inadequacy of science laboratory equipment
- h) Shortage or inadequacy of instructional materials (e.g. textbooks)
- i) Shortage or inadequacy of computers for instruction
- j) Lack or inadequacy of Internet connectivity
- k) Shortage or inadequacy of computer software for instruction
- l) Shortage or inadequacy of library materials
- m) Shortage or inadequacy of audio-visual resources

The questions on the part of *school climate* taken into the study are given on the Table 2. When determining the views of school principals regarding *the school climate* given on the Table 2 in the PISA study, the four scale (1-not at all, 2-very little, 3- to some extent, 4- a lot) data collection tool was used.

**Table 2**  
**PISA 2009 School questionnaire, the questions taken from the school climate**

Q17. In your school, to what extent is the learning of students hindered by the following phenomenon?	Not at All	Very little	To some extent	A lot
	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
a) Teachers' low expectations of students				
b) Student absenteeism				
c) Poor student-teacher relations				
d) Disruption of classes by students				
e) Teachers not meeting individual students' needs				
f) Teacher absenteeism				
g) Students skipping classes				
h) Students lacking respect for teachers				
i) Staff resisting change				
j) Student use of alcohol or illegal drugs				
k) Teachers being too strict with students				
l) Students intimidating or bullying other students				
m) Students not being encouraged to achieve their full potential				

## 2.1. Data Analysis

The raw data derived from online database of OECD were transferred into SPSS program, and then following processes were applied through the purpose of the study:

The correlation coefficients were regarded between 0,70-1.00 as high; 0,70-,0,30 was moderate; and 0,30-0,00 as low correlation (Büyüköztürk 2007, 32). Exploratory factor analysis was performed to determine the factor structure of the items regarding school resources. According to the factor analysis given on the Table 3, three dimensions (eigenvalue greater than 1.0) including *equipment resources*, *teacher resources* and *other personal resources* were explored. These three dimensions and all of them were separately were evaluated by multiple regression analysis, when investigating the effect of school resources on organization climate. In the study, the answers to all 13 items on the scale of organization climate were summed and school climate index was estimated for each school.

**Table 3**  
**The results of exploratory factor analysis regarding school resources**

The items	Factors		
	Equipment resources	Teacher resources	Other personal resource
10) Lack or inadequacy of Internet connectivity	,829		
11) Shortage or inadequacy of computer software for instruction	,745		
9) Shortage or inadequacy of computers for instruction	,721		
13) Shortage or inadequacy of audio-visual resources	,660		
8) Shortage or inadequacy of instructional materials (e.g. textbooks)	,579		
12) Shortage or inadequacy of library materials	,501		
7) Shortage or inadequacy of science laboratory equipment	,493		
2) A lack of qualified mathematics teachers		,900	
3) A lack of qualified <test language> teachers		,871	
1) A lack of qualified science teachers		,835	
4) A lack of qualified teachers of other subjects		,694	
5) A lack of library staff			,873
6) A lack of other support personnel			,766

## 2.2. Results of reliability

Table 4 shows item-total statistics of the scale of school resources, and Table 5 shows item-total statistics of the scale of school climate. The results of these analyses indicate that the measures derived from the scale of school climate are reliable statistically.

**Table 4**  
**Item-total statistics of the scale of school resources**

Items	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Cronbach's Alpha if item deleted
SC11Q01	36,69	35,946	,489	,839
SC11Q02	36,59	34,565	,642	,825
SC11Q03	36,63	34,356	,636	,826
SC11Q04	36,80	36,081	,663	,825
SC11Q05	37,25	40,942	,116	,865
SC11Q06	36,75	40,160	,268	,850
SC11Q07	36,77	38,032	,515	,835
SC11Q08	36,54	36,532	,661	,826
SC11Q09	36,73	38,549	,527	,836
SC11Q10	36,99	36,584	,574	,831
SC11Q11	36,96	37,878	,547	,834
SC11Q12	37,10	39,017	,521	,837
SC11Q13	36,83	38,569	,527	,836
Cronbach's Alpha= ,847				

**Table 5**  
**Item-total statistics of the scale of school climate**

Items	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Cronbach's Alpha if item deleted
SC17Q01	36,65	96,056	,379	,947
SC17Q02	36,11	93,631	,666	,939
SC17Q03	36,50	89,527	,782	,935
SC17Q04	36,33	90,935	,760	,936
SC17Q05	36,85	93,178	,618	,940
SC17Q06	36,42	86,500	,854	,932
SC17Q07	36,45	89,484	,783	,935
SC17Q08	36,61	87,489	,842	,933
SC17Q09	36,45	89,122	,794	,935
SC17Q10	36,44	82,463	,751	,938
SC17Q11	36,71	88,719	,696	,938
SC17Q12	36,73	85,902	,826	,933
SC17Q13	36,63	91,106	,718	,937
Cronbach's Alpha= ,941				

### 3. Findings

#### To what extent do school resources predict the school climate?

Table 6 shows the results of multiple regression analysis testing the effect of equipment resources on the school climate.

**Table 6**  
The results of multiple regression analysis testing the effect of equipment resources on the school climate

Variable	B	Std. Error	$\beta$	t	Sig.	Zero-order	Partial
Constant	12,449	4,567		2,726	,007		
SC11Q07	,869	1,110	,065	,783	,435	,303	,066
SC11Q08	2,792	1,172	,214	2,382	,019	,453	,196
SC11Q09	,774	1,327	,051	,583	,561	,329	,049
SC11Q10	3,862	1,154	,331	3,347	,001	,480	,270
SC11Q11	-1,524	1,278	-,111	-1,193	,235	,254	-,100
SC11Q12	1,883	1,398	,114	1,347	,180	,354	,112
SC11Q13	,216	1,316	,014	,164	,870	,279	,014
R= ,556 R <sup>2</sup> = ,309 F (7,142) = 9,061 p= ,000							

The results shown on the Table 6 indicate that school climate is modestly and positively correlated with the equipment resources (R=,556; R<sup>2</sup> =,309; p<,01). As these resources are evaluated together, they accounted for approximately 30 % of school climate.

Table 7 shows the results of multiple regression analysis testing the effect of teacher resources on the school climate.

**Table 7**  
The results of multiple regression analysis testing the effect of teacher resources on the school climate

Variable	B	Std. Error	$\beta$	t	Sig.	Zero-order	Partial
Constant	21,278	2,890		7,362	,000		
SC11Q01	-1,151	,922	-,121	-1,249	,214	,300	-,103
SC11Q02	2,493	1,701	,252	1,466	,145	,519	,121
SC11Q03	3,198	1,542	,333	2,074	,040	,541	,170
SC11Q04	1,081	1,118	,088	,967	,335	,402	,080
R= ,557 R <sup>2</sup> = ,310 F (4,145) =16,277 p= ,000							

The results shown on the Table 7 indicate that school climate is modestly and positively correlated with the teacher resources ( $R=,557$ ;  $R^2 =,310$ ;  $p<,01$ ). As these resources are evaluated together, they accounted for approximately 31 % of school climate.

Table 8 shows the results of multiple regression analysis testing the effect of other personal resources on the school climate.

**Table 8**

**The results of multiple regression analysis testing the effect of other personal resources on the school climate**

Variable	B	Std. Error	$\beta$	t	Sig.	Zero-order	Partial
Constant	37,396	3,387		11,040	,000		
SC11Q05	-3,224	,915	-,315	-3,523	,001	-,191	-,279
SC11Q06	3,404	1,168	,261	2,915	,004	,111	,234
R= ,299 R <sup>2</sup> = ,089 F (2,147) =7,203 p= ,001							

The results shown on the Table 8 indicate that school climate is lowly and positively correlated with the other personal resources ( $R=,299$ ;  $R^2 =,089$ ;  $p<,01$ ). As these resources are evaluated together, they accounted for approximately 9 % of school climate.

Table 9 shows the results of multiple regression analysis testing the effect of all resources (*equipment resources*, *teacher resources*, and *other personal resources*) on the school climate.

**Table 9**

**The results of multiple regression analysis testing the effect all resources on the school climate**

Variable	B	Std. Error	$\beta$	t	Sig.	Zero-order	Partial
Constant	10,771	4,465		2,412	,017		
SC11Q01	-,693	,950	-,073	-,729	,467	,300	-,062
SC11Q02	1,230	1,644	,124	,748	,456	,519	,064
SC11Q03	2,637	1,451	,274	1,818	,071	,541	,154
SC11Q04	-,090	1,123	-,007	-,080	,936	,402	-,007
SC11Q05	-2,736	,803	-,267	-3,409	,001	-,191	-,281
SC11Q06	1,809	1,010	,139	1,791	,075	,111	,152
SC11Q07	,995	1,074	,074	,927	,356	,303	,079
SC11Q08	,627	1,168	,048	,536	,593	,453	,046
SC11Q09	,178	1,258	,012	,141	,888	,329	,012
SC11Q10	2,355	1,096	,202	2,149	,033	,480	,181
SC11Q11	-1,068	1,187	-,078	-,899	,370	,254	-,077
SC11Q12	3,140	1,315	,190	2,388	,018	,354	,201

SC11Q13	,647	1,237	,043	,523	,602	,279	,045
R=,678	R <sup>2</sup> =,459	F <sub>(13,136)</sub>	= 8,884	p= ,000			

The results shown on the Table 9 indicate that school climate is modestly (near to highly) and positively correlated with the all resources (R=,678; R<sup>2</sup> =,459; p<,01). As these all resources are evaluated together, they accounted for approximately 46 % of school climate.

### 3. Discussion

The results derived from this study suggest that the school resources have considerable effect on the school climate. For that, the quality of school resources seems to be very important issue in improving the school climate. However, the important issue is the distribution of these resources among the schools. Çıngı et al. (2007, 3) demonstrate that there are considerable differences among the provinces and districts when evaluating the inequalities in educational facilities in terms of computer, language, physics, chemistry and biology labs as well as the number of schools and educators. And also it can be said that the development of the place where the school exist has directly effect on these differences. In this regard, if improving the schools' climate seriously is wanted, this should be achieved with considering the equity dimension.

Among the prominent problems of supplying and using the resources in Turkey can be sorted as follows: a large part of the budget allocated to education covers necessary expenses such as staff costs; insufficient resource allocation to improving the quality in education; the absence of a performance auditing system for investigating whether the resources are used efficiently; making the budgetary allocations to education free, and executing the works during inappropriate times because purchasing needs time etc. (MEB 2009, 52). When making an evaluation in terms of the results of this study, the problems of supplying and using the school resources in Turkey have a considerable cost to the schools' climate. The quantity of school inputs in education is directly affected by the government policy. And this situation becomes a big issue of government policy. Consequently, these inputs are related with policy process (Heinesen & Graversen 2005, 110; Hanushek 2007). It

can be considered that these problems are unsustainable over the long run, and the school system is under an important risk in terms of improving the schools' climate.

#### 4. Conclusions

School climate was, moderately and positively correlated with *equipment resources* ( $r=0,556$ ;  $p<0.01$ ), and *teacher resources* ( $r=0,557$ ;  $p<0.01$ ); lowly and positively correlated with *other personal resources* ( $r=,299$ ;  $p<0.01$ ); moderately (close to highly) and positively correlated with all resources ( $r=,678$ ;  $p<,01$ ).

In conclusion, according to the dimensions of school resources: *equipment resources* accounted 30 %, *teacher resources* accounted 31 %, *other personal resources* accounted 9 %, and all resources accounted 46 % of the total variance in organization climate.

This study has made a considerable contribution to the literature in terms of drawing attention to the relations between school resources and school climate. However, because the findings are shaped by the perceptions of school principals, it clearly requires the studies which should be conducted on the perceptions of other stakeholders such as teachers, students, parents and etc. Especially, the analyses in terms of the socio-economic variables can be important to the literature.

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