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## **A Path Analysis Study of School Culture and Teachers' Organisational Commitment**

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**ABSTRACT** In this study, the direct and indirect relations between school culture and the organisational commitment of primary school teachers were analyzed. The subjects of the research consisted of primary school teachers who worked at a district in Istanbul in the academic year 2007-2008. The sampling group was defined by the cluster sampling method. In total 200 teachers participated. Two scales were used to collect data, the organisational commitment scale (OCS) and the school culture scale (SCS). Linear regression and path analysis were used to explain the influence of school culture on organisational commitment, and LISREL 7 was used as a structural equation model. The findings indicated that although there was a positive correlation between school culture and organisational commitment, the direct effect of school culture on organisational commitment was not meaningful.

### **Introduction**

There is no single comprehensive organisational theory that fully explains the complexity of school as a social organisation. Like the elephant examined by blind men, participants and observers feel differently about schools. Principals, teachers or students may describe the school as a tight ship, an assembly line or even a prison. Organisational theorists describe schools as machines, organisms, brains, cultures, systems, and structures. Each theoretical model or metaphor expresses part of the organisational reality of schools; each model, however, is incomplete and even misleading (Morgan, 2006).

In this study, we tried to systematically define the reasons for the extent to which organisational commitment was affected by school culture, and what the direct and indirect relations were between two concepts. In the sample of teachers used, this was attempted by use of linear regression and a structural equation model.

### **Conceptual Framework**

#### *School Culture*

School culture came into existence with beliefs, a shared vision, traditions, heroes and a history of organisation. School culture affects behaviors of members and their productivity, and parents of the students and society were affected by this image of the school (Leifeste, 1999). According to Stolp (1996), if a school had a strong culture that consists of strong traditions, ceremonies, rituals

and symbols, it could affect students' motivation, teachers' success, and their productivity in a positive direction.

School culture depends on the level of sharing of basic beliefs and values among the members of the organisation. School culture is classified as weak or strong on the basis of the sharing of these elements. Strong school culture means that the members were strongly attached to the values of the school (İpek, 1999). It also affects decision making and communication processes in a school as an organisation. It is related to organisational learning, adaptation, innovation, competition, productivity, performance and organisational commitment (Kathrins, 2007). As some researchers point out, the level of members' performance, work satisfaction and organisational productivity increases if the level of organisational commitment is high in any organisation; in the opposite situation, irregular attendance and lack of motivation at work can increase (Ferris & Aranya, 1983; Culverson, 2002; Brown, 2003; Guatam et al, 2004).

Hargreaves (1992) defined cultures of teaching as the 'beliefs, values, habits and assumed ways of doing things among communities of teachers who have had to deal with similar demands and constraints over many years' (p. 271). In this sense, understanding teaching and teachers implies the consideration of the cultures in which they work. School culture has been described as a pattern of shared basic assumptions that the group acquired as it solved its problems, and which are valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel (Schein, 2004, p.12; Senge et al, 1994, p. 21). It is a fairly recent phenomenon, with one of the earliest models of organisations as cultures being developed by Schein (2004). In part, the school culture concept grew from advances in organisational theory, but it can also be related to research concerning the vast effective schools movement of the 1960s and 1970s. Contributors to the study of organisational culture and specifically to the culture of schools concluded that school culture can enhance improvement efforts or be a barrier to change, and that it can effect teacher productivity and student achievement (Purkey & Smith, 1983, 1985; Smey-Richman, 1991; Deal & Kennedy, 2000).

It was suggested by some scholars that internal structures and processes of the school culture could make some schools more effective than others (Good & Brophy, 2001). Collegiality, collaboration, shared decision-making, continuous improvement of teaching practices, and long-term commitment are ways to measure the strength of schools' culture.

Organisational culture has been defined by numerous researchers. The cultural anthropologists Kroeber & Kluckhohn (1952) found 164 different definitions of culture. Ott (1997) summarised a collection of 58 books and articles that each defined organisational culture differently. The definitions range from the simple to the complex, with no single definition acceptable to all researchers. Culture is described as social glue (Smircich, 1983) and as organisational blinders (Krefting & Frost, 1995). According to Bower (1966), organisational culture is 'the way we do things around here'. According to Lortie (2002), culture includes what members of a group think about social action; culture encompasses alternatives for resolving problems in collective life.

Previous studies have emphasised the qualitative aspects of organisational culture. Peters & Waterman (2004) noted commonalities of organisational excellence and suggested that successful organisations have eight common cultural characteristics. Schein (2004) postulated common stages of development or growth in organisational culture. In a study about primary school culture, Lawrence-Lightfoot (1983) identified similarities or important ingredients culture of high school, and McNeil (1999) described control as a cultural dimension in four Midwestern primary schools.

#### *Teachers' School Commitment*

Organisational commitment is defined as the relative strength of an individual's identification with and involvement in a particular organisation (Steers, 1977, p. 46). It is characterised by a strong belief in and acceptance of the organisation's goals and values, a willingness to exert considerable effort on behalf of the organisation, and a strong desire to remain with the organisation (Steers & Porter, 1979). The definition of organisational commitment, used here, is defined in terms of an attitude and behavior. It goes further than passive loyalty to the organisation (Mowday et al, 1979, p. 224).

Reyes (1992) found some variables to be significant predictors of teachers' organisational commitment. Collaborative climate, administrative support, school environment, the amount of innovation encouraged, shared decision-making, and frequent attention to teachers by the principal explained 60 per cent of the variability in teachers' organisational commitment. Collaborative climate (.30) had the largest effect. Thirty-six per cent of the variability in teacher commitment was uniquely explained by a high level of organisational collaboration. The second most powerful predictor was organisational support.

Studies addressing type of school as a variable report that elementary teachers are more committed than secondary teachers (Shin & Reyes, 1995). Reyes & Fuller (1995) studied the communal/bureaucratic orientations of middle schools and high schools regarding student achievement. Results indicated that there was not a difference between high schools and middle schools in terms of their communal/bureaucratic orientations. Also, within-school variation was larger than between-school variance.

In fact, others have reported similar findings relating to teachers' organisational commitment, the importance of the principals' roles, their leadership styles, and structural processes used in daily operations of the school (Coldarci, 1992; Hart & Willower, 1994). Other research suggests specific structures and processes that are related to teachers' organisational commitment. Teachers' decision-making power (Kushman, 1992), collaborative climate (Hoy et al, 1990; Reyes, 1992), and shared beliefs, values, and norms (Shaw & Reyes, 1992; Reyes & Fuller, 1995) may influence this variable.

Teacher commitment is believed to be central to school effectiveness. This notion is based on arguments claiming that student achievement is intertwined with teachers' commitment to their work, their school and their students (Firestone & Rosenblum, 1988; Metz 1988).

Teacher commitment has gradually been recognised in the leadership literature as the most effective route to school success (Fink, 1992). There are two reasons to emphasise teacher commitment. First, it is an internal force coming from teachers themselves, with their need for greater responsibility, variety, and challenge in their work as their educational levels have grown. Second, it is an external force coming from the reform movement seeking high standards and accountability, which are dependent upon teachers' voluntary commitment. Research studies have claimed that teacher commitment is a critical predictor of a teacher's job performance and of the quality of education (Tsui & Cheng, 1999).

In the early studies, organisational commitment was defined as seizing the values and goals of the organisation, trying to be a part of the organisation and feeling like a strong member of a family (Demiray & Curabay, 2008). Meyer & Allen (1991) developed a three-component model breaking organisational commitment down into affective, continuance and normative commitment. According to these researchers, in affective commitment, individuals stay in the organisation because they want to do so. In continuance commitment, they stay because they need to do so; and in normative commitment, they stay because they feel a sense of responsibility or obligation. Therefore, individuals may experience these psychological situations at different levels. For example, some of them may feel a strong necessity and obligation to stay in the organisation but they may not do it with intrinsic desire or motivation. On the other hand, some others may not feel any necessity or obligation, yet they still continue to stay in the organisation. For this reason, commitment of the individual is a reflection of the sum of these psychological situations.

Teacher commitment, broadly defined as loyalty to the school organisation, was selected as a major dependent variable because in normative organisations commitment is seen as a primary cultural feature related to all three levels of Schein's (2004) cultural model. Also, organisational commitment is seemingly enhanced when the organisational culture emphasises the normative orientation. Commitment is shared in terms of the norms, values, beliefs, and other cultural elements of organisations. Therefore, analyzing the relationship between school culture and teacher commitment may show the significance of such a relationship.

As seen in the literature, there were many findings that define the relationship between school culture and organisational commitment. In these studies, many researchers had preferred to use correlational methods to define these relationships. It is very important, however, to define how unexpected variables play a role in these relationships. There was no research that defined the direct and indirect effects of school culture on organisational culture and its components. This study was designed to determine these relations.

### Research Questions

- For teachers, how much is their organisational commitment to school affected by school culture?
- What are the direct and indirect relations between school culture and teachers' organisational commitment to school?

### Methodology

#### *Subjects and Sampling*

The subjects of the research consisted of primary school teachers who worked at a district in Istanbul in the academic year 2007-2008. The cluster sampling method (McMillan & Schumacher, 2006) was used for sampling. Three different income categories (low, mid and high level) were chosen, and then five primary schools from each category (a total of 15) were randomly chosen. There was a total of 228 participants. Because of a coding mistake, 28 participants were taken out of the research, and the sampling group consisted of 200 teachers. Table I shows the demographic characteristics of the participants.

Alternatives	1	2	3	4	5	Total	
Gender	Male	Female				-	
	$\eta$	67	133			200	
	%	33.5	66.5			100	
Marital status	Single	Married				-	
	$\eta$	46	145			191	
	%	23.0	77.0			100	
Age	21-30	31-40	+41			-	
	$\eta$	33	115	52		200	
	%	16.5	57.5	26.0		100	
Professional work experience (Years)	1-5	6-10	11-15	16-20	+21	-	
	$\eta$	21	75	64	21	19	200
	%	10.5	37.5	32.0	10.5	9.5	100
Education level	Associate	Bachelor	Master			-	
	$\eta$	23	163	14		200	
	%	11.5	81.5	7.0		100	

Table I. Percentage rate and frequencies concerning demographical characteristics of the participants in sampling group.

#### *Data-Collecting Instrument*

*Scale of organisational commitment to school.* Meyer & Allen (1991) developed a three-component model of organisational commitment in the domain of occupational commitment, breaking it down into affective, continuance, and normative commitment. Teacher commitment was constructed with three measures as follows: teacher commitment to school organisation (TCO); teacher commitment to teaching profession (TCP); and teacher commitment to students (TCS). A scale of organisational commitment to school (OCS) was developed by Demirkıran (2004), consisting of an 18-item and 5-point Likert scale assessing the level of organisational commitment of the teachers. Factor analysis was carried out with the help of A varimax technique. The scale consists of three sub-scales: Affective Commitment; Continuance Commitment; and Normative Commitment. Reliability of the sub-scales (Alpha) ranked from 0.68 to 0.77.

The school culture scale (SCS) was developed by Şimşek (2003) in order to define the school-culture perception of the teachers. The scale was a 5-point Likert scale and consisted of 18 items. The scale consists of seven sub-scales: Facilitator Role; Human Resource Development; Human Relations; Effective Communication; Pleasure; Trust; Motivation and Productiveness. Reliability of

the sub-scales (Alpha) ranked from 0.67 to 0.76. Table II shows numbers of items, means and standard deviation of sub-scales for two scales.

Commitment to School Scale	Number of items	Alpha	Mean	Standard deviation	Valid $\eta$
1. Affective commitment	6	0.68	3.24	0.73	200
2. Continuance commitment	6	0.73	2.80	0.49	200
3. Normative commitment	6	0.77	2.93	0.69	200
School Culture Scale	Number of items	Alpha	Mean	Standard deviation	Valid $\eta$
4. Facilitator role	3	0.67	3.44	1.21	200
5. Human resource development	2	0.68	3.47	0.76	200
6. Human relations	2	0.71	3.80	1.63	200
7. Effective communication	3	0.76	3.31	0.69	200
8. Pleasure	2	0.71	3.54	0.70	200
9. Trust	3	0.73	3.57	0.70	200
10. Motivation and productiveness	3	0.69	3.31	0.69	200

Table II. Reliability coefficients, means and standard deviations of the scales of the organizational commitment and school cultures.

*Procedure*

In this study, we tried to define how much the commitment to school was affected by school culture and what the direct and indirect relations between commitment to school and school culture were for teachers.

In the analysis, sub-scales of commitment to school were appointed as external and sub-scales of school culture were internal. Because the causal variables were changing together, there was a dependency between variables. Because of  $r_{xixj} \neq 0$ , the causal variables also have an indirect effect on the resulting variables in addition to their direct effect. For this reason, path analysis was used in order to explain the reasons systematically (see Figure 1). LISREL 7 was used for analysis of the data of the structural equation model.

**Findings**

As seen in Table III, there was a statistically meaningful positive relationship between all sub-scales of school culture and the affective commitment and normative commitment sub-scales of the organisational commitment to school. However, there was no meaningful relationship between all sub-scales of school culture and the continuance commitment sub-scales of organisational commitment to school.

It was found that facilitative role and trust, two scales of school culture, affect continuance commitment, which was a sub-scale of organisation commitment to school, and this relationship was statistically meaningful.

Table IV shows the results of multiple regression analyses for sub-scales of school culture and affective commitment to school. According to this, there was a mid-level meaningful relationship between sub-dimensions of school culture and affective commitment of teachers ( $R = .515$ ,  $R^2 = .265$ ,  $p < .01$ ). School culture explains 26% of the total variance for seven dimensions. The standardised regression coefficient ( $\beta$ ) indicates relationships according to the order of variables in terms of their significance: motivation and productiveness; trust; human resource development; human relations; effective communication; facilitator role; pleasure. The  $t$ -test result giving relation regression coefficients shows that no variable has a meaningful predictable effect on affection commitment.

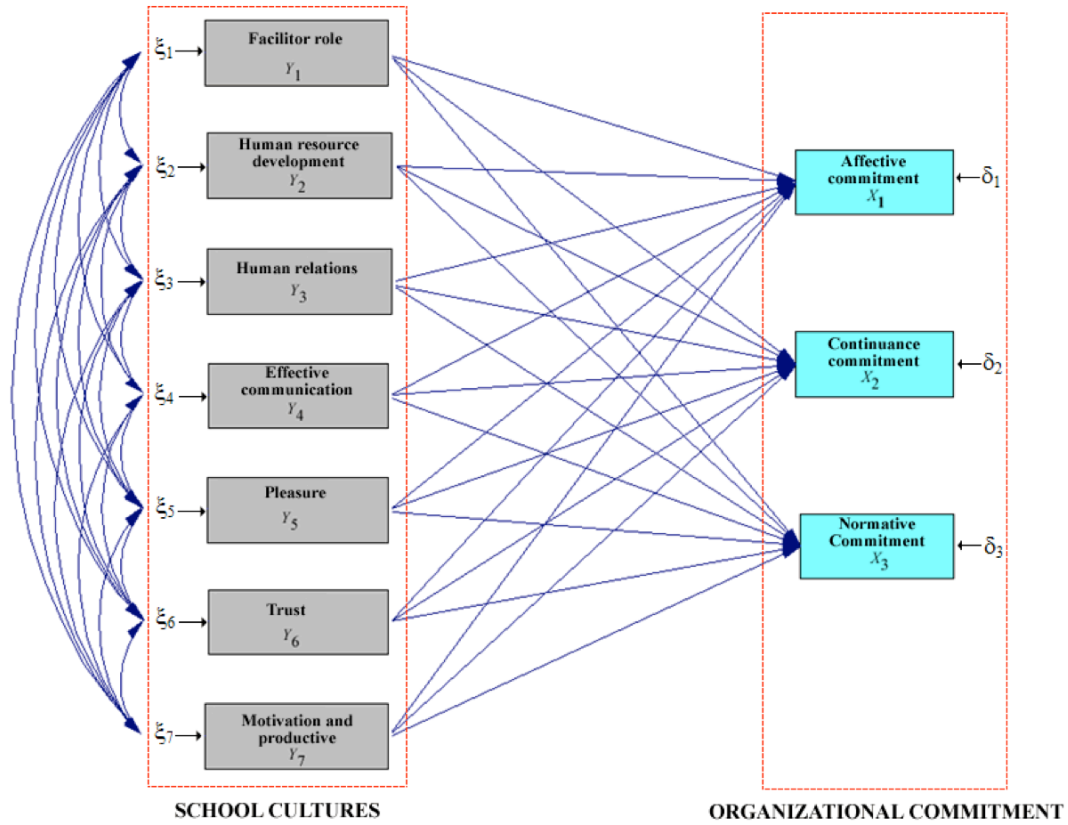


Figure 1. Path diagram model for school culture and organizational commitment.

Variable	1	2	3	4	5	6	7	8	9	10
<i>Organizational Commitment</i>										
1. Affective commitment	-									
2. Continuance commitment	0.08**	-								
3. Normative commitment	0.31**	0.39**	-							
<i>School Culture</i>										
4. Facilitator role	0.24**	0.11	0.32**	-						
5. Human resource development	0.39**	0.10	0.30**	0.42**	-					
6. Human relations	0.26**	-0.05	0.18*	0.12	0.21**	-				
7. Effective communication	0.38**	0.11	0.30**	0.41**	0.55**	0.29**	-			
8. Pleasure	0.33**	0.01	0.31**	0.30**	0.49**	0.30**	0.52**	-		
9. Trust	0.41**	0.14	0.41**	0.26**	0.49**	0.30**	0.53**	0.47**	-	
10. Motivation and productiveness	0.42**	0.14	0.34**	0.34**	0.45**	0.30**	0.52**	0.48**	0.62**	-

$n = 200$ , \* $p < .05$ , \*\* $p < .01$ .

Table III. Pearson-moment correlation matrix between organizational commitment and school culture.

Variable	B	Std Error	$\beta$	t	p
Constant	.966	.289		3.343	.001
1. Facilitator role	.028	.043	.046	0.646	.519
2. Human resource development	.129	.079	.136	1.637	.103
3. Human relations	.041	.030	.091	1.356	.177
4. Effective communication	.094	.091	.088	1.034	.303
5. Pleasure	.042	.083	.040	0.505	.614
6. Trust	.157	.091	.149	1.731	.085
7. Motivation and productiveness	.168	.090	.159	1.862	.064

$R = .515, R^2 = .265, F_{(7,191)} = 9.837, p = .000.$

Table IV. Result of multiple regression analysis on predictable effect of school culture on affective commitment.

Table V shows the results of multiple regression analyses for sub-scales of school culture and continuance commitment to school. According to this, there was no meaningful relation between sub-dimensions of school culture and continuance commitment of teachers ( $R = .221, R^2 = .049, p > .05$ ). Results of a *t*-test concerning the meaningful regression coefficient ( $\beta$ ) indicate that there was not any predictable meaningful effect on continuance commitment.

Variable	B	Std Error	$\beta$	t	p
Constant	2.425	.220		11.027	.000
1. Facilitator role	.024	.033	.060	.738	.462
2. Human resource development	.019	.060	.029	.310	.757
3. Human relations	-.032	.023	-.108	-1.413	.159
4. Effective communication	.040	.069	.056	.576	.566
5. Pleasure	-.077	.063	-.111	-1.230	.220
6. Trust	.072	.069	.102	1.042	.299
7. Motivation and productiveness	.072	.069	.102	1.043	.298

$R = .221, R^2 = .049, F_{(7,191)} = 1.400, p = .207.$

Table V. Result of multiple regression analysis concerning predictable effect of school culture on continuance commitment

Table VI shows the results of multiple regression analyses for the relationship between sub-scales of school culture and normative commitment to school. According to this, there was a mid-level meaningful relation between sub-dimensions of school culture and normative commitment of teachers ( $R = .490, R^2 = .240, p < .01$ ).

School culture explains 24% of total variance for seven dimensions. The standardised regression coefficient ( $\beta$ ) indicates relationships according to the variables in terms of order of significance: trust; facilitator role; pleasure; motivation and productiveness; human relations; human resource development; effective communication. A *t*-test result indicating meaningful effects of regression coefficients shows that trust and facilitator role have a predictable meaningful effect on normative commitment.

Table VII and Figure 2 show these effects. It was known that correlation and regression coefficients show the total effect between  $y_i$  (independent variable) and  $x_i$  (dependent variable). With path analysis, relations between variables can be shown as the rate of direct effect apart from correlation and regression. In this study, the path coefficient shows that there was an only meaningful direct effect of facilitator role (0.06) and trust (0.10) on continuance commitment to school of teachers. Other correlations between variables are not statistically meaningful.

Variable	B	Std Error	$\beta$	t	p
Constant	.988	.280		3.535	.001
1. Facilitator role	.128	.042	.221	3.063	.003
2. Human resource development	.005	.076	.005	.060	.952
3. Human relations	.011	.029	.027	.392	.695
4. Effective communication	-.009	.088	-.009	-.108	.914
5. Pleasure	.090	.080	.091	1.131	.260
6. Trust	.299	.088	.299	3.409	.001
7. Motivation and productiveness	.027	.087	.027	.308	.759

R = .490, R<sup>2</sup> = .240, F<sub>(7,191)</sub> = 8.600, p = .000.

Table VI. Results of multiple regression analysis concerning predictable effect of school culture on normative commitment.

External Variables/ Internal Variables	Path coefficients $\lambda_y^x$			t			R <sup>2</sup>		
	Aff. Com. [ $\delta_1$ ]	Cont. Com. [ $\delta_2$ ]	Nor. Com. [ $\delta_3$ ]	Aff. Com. [ $\delta_1$ ]	Con. Com. [ $\delta_2$ ]	Nor. Com. [ $\delta_3$ ]	Aff. Com. [ $\delta_1$ ]	Con. Com. [ $\delta_2$ ]	Nor. Com. [ $\delta_3$ ]
Facilitator role [ $\xi_1$ ]	.05	.06*	.22	.65	.74	3.07	.03	.02	.13
Human resource development [ $\xi_2$ ]	.14	.03	.01	1.64	.31	.06	.13	.02	.00
Human relations [ $\xi_3$ ]	.09	-.11	.03	1.36	-1.42	.39	.04	-.03	.01
Effective communication [ $\xi_4$ ]	.09	.06	-.01	1.04	.58	-.11	.09	.04	-.01
Pleasure [ $\xi_5$ ]	.04	-.11	.09	.51	-1.23	1.13	.04	-.08	.09
Trust [ $\xi_6$ ]	.15	.10*	.30	1.74	1.04	3.42	.16	.07	.30
Motivation and productiveness [ $\xi_7$ ]	.16	.10	.03	1.87	1.05	.31	.17	.07	.03

Table VII. Goodness-of-fit statistics of the path model of school culture and organizational commitment.

**Discussion**

The findings indicated that there were statistically meaningful relationships (from 0.24 to 0.42 positively) between two dimensions of organisational commitment (affective and normative commitment to school) and school culture. Multi-regression findings also showed the same relationships. According to these findings, there was a positive relation between school culture and affective and normative commitment. These findings were also supported by many research findings made by other researchers (Shaw & Reyes, 1992; Reames & Spencer, 1998, Keller, 2007, Okpara, 2007). Findings of correlation and regression analysis showed that there was no meaningful relationship between continuance commitment to school and sub-scales of school culture.

It is known that path analysis shows the direct effect of relations between two variables (Stage et al, 2004; Kline, 2005; Huang, 2008). In this study, the results of path analysis, for the same data, indicated that there was no direct relationship between school culture and affective and normative commitment. Interestingly, there was a direct relation between continuance commitment and two dimensions of school culture (facilitator role = .06; trust = .10). This finding is very interesting. While the findings obtained with correlation and regression analysis showed that there was a relation between school culture and affective and normative commitment, path analysis showed that these relationships were indirect. Opposite to this, there was a direct relation between two dimensions of school culture and continuance commitment.

It can be said that there must have been other (secret) variables influencing school culture and commitment. Livari & Huisman (2007) pointed out that school culture could be affected by basic assumptions, beliefs, values and forms of behaviour of the members, heroism, technology used and



the management system. There were many factors that connect members to organisations. Some of them were physical instruments, such as promotion salary and premium. Sometimes, opportunities for leadership, school culture, individual preferences and the management policy can be the most important factors for members (Stum, 1999). If a person worked for a short term in an organisation, he/she could be motivated with physical instruments. In contrast, the same person working for a long time might prefer other factors. If someone believes that they can create a difference for the organisation, they can devote themselves much more to their organisation (Tushman & O'Reilly, 2002).

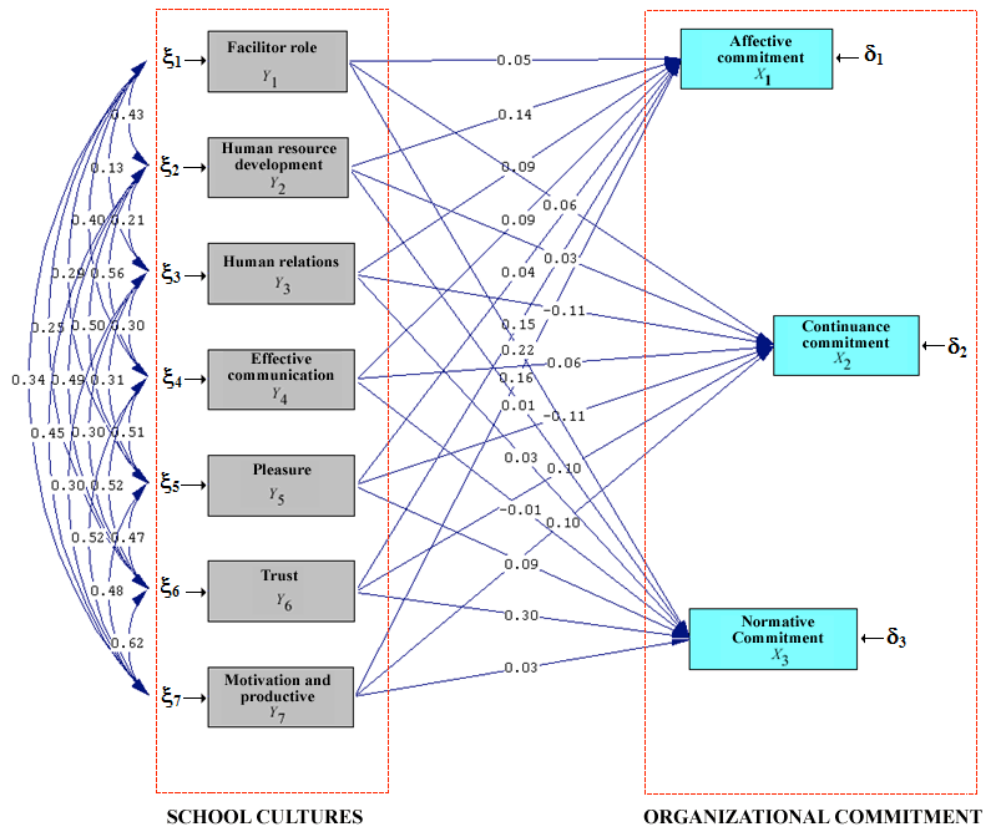


Figure 2. Standardized parameter estimates of the path model of school culture and organizational commitment.

In addition to this, one of the important findings of this research was that the results of the correlation method should be carefully interpreted. This is due to the fact that correlation coefficients, which were found to be the total effect, do not show the direct effect between the variables. In other words, correlation coefficients include all of the effects of variables that affect the dependent variable. For this reason, it is not possible to explain all of the relations between two variables by only using the correlational method (Bentler & Chou, 1987; Keith, 1993; Moore, 1995; MacCallum & Austin, 2001; Brandon, 2002; Martens, 2005; Tomarken & Waller, 2005; Chan et al, 2007). In addition this, we have to say that regression analysis also shows direct relations as predicted between two variables. Researchers have to be careful about our commitments regarding these points.

Consequently, there were direct and indirect relations between school culture and school commitment. This study indicates the direct relations between continuance commitment and culture of facilitator role and culture of trust. There could be many potential variables affecting school commitment and school culture. Future researchers must focus on unexplained (potential) sub-factors of school culture via models of structural equations.

## Note

- [1] Data for this research were collected by A. Çakır as part of his master's thesis, and his academic consultant, Prof. Dr Adil Çağlar, gave us publishing permission. We thank him for this permission and for all his help.

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