

Received: July 4, 2016

Revision received: December 27, 2016

Accepted: February 14, 2017

OnlineFirst: May 17, 2017

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[www.estp.com.tr](http://www.estp.com.tr)

DOI 10.12738/estp.2017.4.0362 • August 2017 • 17(4) • 1405–1432

Research Article

# Accountability Policies at Schools: A Study of Path Analysis\*

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## Abstract

Turkey is now on its way to reforming compulsory education and having a more effective and efficient education system by creating more accountable schools. This research has been designed in a causative pattern to discover the effects of external academic performance pressures on school accountability policies and school accountability responses based on quantitative data obtained both from teachers and school administrators. First, account-giving behaviors related to teaching activities among school teachers and administrators directed at themselves and created by academic performance pressures coming from school shareholders, the local socio-environment, and upper bureaucracy respectively were discovered. Second, academic performance pressures from school shareholders create more support for schools' policy on market accountability, whereas bureaucratic performance pressures create resistance to the policy on performance accountability. Third, those who favor obeying the rules for teaching are more inclined to give an account of their deeds to the upper bureaucracy.

## Keywords

School improvement • Accountability • Control • Academic achievement • Path analysis •  
Education policy

\* This study is based on the doctoral dissertation entitled "Accountability Policies at Schools: A Study of Structural Equation Modeling," prepared under the supervision of Prof. Engin Karadağ, in Eskişehir Osmangazi University. An earlier version was orally presented at the ISTELE Conference, August 5-7, 2015, in Kurume, Japan.

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**Citation:** Erdağ, C. (2017). Accountability policies at schools: A study of path analysis. *Educational Sciences: Theory & Practice*, 17, 1405–1432. <http://dx.doi.org/10.12738/estp.2017.4.0362>

One of the main tasks of educational institutions all over the world is to provide students with an adequate level of academic skills for the least cost. Basically, all educational systems struggle to produce the desired academic performance by effectively and efficiently processing various financial, material, and human resources. On the other hand, social, economic, technological, and cultural changes generally create adverse effects on the education system, particularly on schools, and cause undesired results aside from low academic performance to ensue. Considering the criticism of schools around the world, one observes that they offer the public few benefits and are unable to show the performance expected of them despite the huge amount of investment provided; they are expected to behave more responsibly and to be held accountable for greater performance and efficiency (Kuchapski, 2001; Nagy, 1995).

In line with global developments, the Turkish education system has been criticized frequently both in terms of academic performance and managerial processes. Firstly, Turkish schools are criticized for underperforming both at the national-level exam, as in the high school and university entrance exams respectively, and international-level exams, as in the Programme for International Student Assessment (PISA), the Trends in International Mathematics and Science Study (TIMSS), and the Progress in International Reading Literacy Study (PIRLS). These exams reveal that Turkish students have problems with math, science, reading, and problem-solving skills and are far behind the achievement level that many developed and developing countries have reached (Aydın, Erdağ, & Taş, 2011; Aydın, Sarier, & Uysal, 2012; Directorate of Research and Development [EARGED], 2003, 2004). Secondly, Turkish public administration, thus being very much a part of the Turkish educational administration, has frequently been criticized for being oversized, over-formalized, unwieldy, not transparent, more bureaucratic, and less responsive than what citizens need (Dinçer, 1998; Eryılmaz, 1997; Göksu, 2002).

Many projects were initiated after 1990 in response to these criticisms, such as the National Education Development Project (NEDP) for improving the quality of education, Total Quality Management (TQM) practices for improving schools, and Curriculum Laboratory Schools that base school development on strategic planning (National Ministry of Education [MEB], 1999, as cited in Kantos, 2010). Furthermore, in order to make education more effective, efficient, and accessible, the Supporting Basic Education Project (SBEP) led to creating primary school standards of quality and determining competencies and performance indicators for the teaching profession. The School Performance Management Model and School Development Planning Model are two models developed to raise the quality of Turkish educational processes and outcomes (MEB, 2002, 2009, as cited in Kantos, 2010). Just after the Turkish economic crisis of 2001, the IMF and World Bank advised governance and accountability policies, and later legislation began to voice

the concept of accountability to restore discipline in allocating public budgets and financial performance (Akgeyik, 2004; Dinçer & Yılmaz, 2003; Doğruel, 2002). Later on, the concept of accountability and its practice began to be defended as the main policy for producing and presenting quality educational services, for providing financial control, and for improving students' academic achievement. In this context, Information Act No. 4982, the Public Financial Management and Control Law No. 5018, and the law on the Establishment of the Public Officials Ethics Committee No. 5176 were enacted.

These public and educational management problems have not only been experienced in Turkey but also in western nations. The economic crisis of the 1970s, technological developments, growing knowledge of society and economy, and globalization produced many problems in developed countries both in the fields of public and educational management. In this context, educational and public institutions in this era lost others' trust because they had not been able to keep up with the changing conditions, had not been able to meet public expectations, and had been involved in bribery and corruption (Earl, 1995; Hood, 1991, 1995; Kuchapski, 2001; Nagy, 1995; O'Day, 2002). Because the traditional management philosophy emphasizing terms such as work division, specialization, qualification, hierarchy, rules, input, process control, and productivity had broken down, the new management philosophy of governance was adapted more and more every day to reestablish trust in public institutions for providing greater satisfaction, preventing monopolization, abolishing arbitrary management, ensuring transparency, sustaining private sector cooperation, and holding organizations' accountable to the needs of citizens. On the basis of these understandings, public management has been clearly structured and become localized, its services have been reduced to the public level, and a justification mechanism for accountability (providing or receiving an account between citizens and the government) has been sustained as the natural course of democracy. This way, public institutions have tried to control their financial performance and services (Akçakaya & Yücel, 2009; Balcı, 2003; Bilgiç, 2008; Hood, 1995; Kızıltaş, 2005; Porter, 1993).

Naturally, education systems have also been affected from solving problems related to the alleged politics and bureaucracy that had been set forth by the public administration during this period. The low academic performance among students, the expanding gap in students' achievement rates, and the ever-increasing need of science and math skills for highly qualified manpower in a very competitive market, in spite of the large cost of producing education services, have strengthened opinions on the need for accountability, effectiveness, efficiency, and reliability in schools more than before (Scheerens, Glas, & Thomas, 2007). Concordantly, the public has high expectations for all students to receive basic skills, for increasing student

academic performance, and for decreasing the achievement gap between them. In particular, the accountability movement, which began in Anglo-Saxon countries, had developed different control mechanisms in schools based on the new management values, thereby obtaining the desired increase in academic performance (Kuchapski, 2001; Levin, 1994; McEwen, 1995; as cited in McNelis, 1998, p. 12).

### **Accountability as a School Improvement Policy**

In the body of literature, accountability acquires its own diverse meanings under different contexts because integrity had not been related to it (Jordan, 2011; Koppell, 2011; Schillemans & Bovens, 2011). When handled as a term, accountability can vary in meaning in Western languages, such as (a) counting and accounting, (b) describing or explaining, (c) justifying, and (d) responsibility (Bovens, 2007; Kuchapski, 2001; Leithwood & Earl, 2000; Møller, 2009; Wagner, 1989). However, in the context of social relations, accountability describes a bilateral relationship based on the process of asking for and giving an account, which builds and furthers the trust between individuals. In an institutional aspect, accountability is understood as the roles and rules that provide an appropriate usage of authority; when viewed from an organizational perspective, accountability is seen as creating a formal or informal mechanism to overcome expectations and uncertainties (Dubnick, 2002).

To build a stronger reliance between citizens and the government, the purpose of an accountability discourse is to show how public institutions work both effectively and efficiently; it allows the bureaucracy to run more democratically (Balci, 2003) and is understood as a value system in terms of the results and situations it has produced and as a social mechanism that produces these results (Bovens, 2010). In the United States, while the term accountability is mostly understood as the duties and responsibilities of institutions and workers, it relates to strong norms of action such as reliability, justice, a sense of responsibility, equality, responsiveness, transparency, and liability (Bovens, 2010; Considine, 2002; Dubnick, 2007; Klingner, Nalbandian, & Barbara, 2001; Koppell, 2005, 2011). In Europe, the basis of democracy is related to and expressed as the process of requesting and giving an account, which builds reliance between individuals and communities. In this context, accountability in Europe first covers earning legitimacy; this relationship of accountability between the principal and agent is determined by each party's authority and responsibility. Next, accountability relates to information that is presented timely and properly by the agent to the principal requesting it. Thirdly, accountability relates to questioning, discussing, and evaluating the agent's performance in accordance with previously determined standards, after which the principal arrives at a positive or negative outcome. The last step is to punish or reward the agent in accordance with the judgments that the principal reached through the performance evaluation (Aucoin

& Jarvis, 2005; Bovens, 2007, 2010; Day & Klein, 1987; Goodin, 2003; Lerner & Tetlock, 1999; McCandless, 2001; Mulgan, 2003; Philp, 2009; Romzek & Dubnick, 1998; Scott, 2000).

Educational accountability is disconnected from management in terms of content and process and has been conceptualized differently at different times. While accountability had come up in the early 1900's in terms of effort in the teaching process and students' responsibilities and in the 1960s in terms of education finance and student success, in the 1990s it meant school performance standards and performance monitoring and evaluation. Recently, accountability has come to mean the elimination of insufficient willpower, motivation, and capacity, which are mostly seen as the reasons for the low student-achievement levels. In this context, external mechanisms are one branch that aims to increase motivation by creating pressure to control and change in schools through different tools and policies. This includes setting goals and standards; applying tests; producing performance information; announcing school performance publicly; increasing competition, participation, and professional capabilities; and handing out rewards and punishments. On the other hand, the internal mechanisms that create learning environments for higher levels of personnel commitment and that provide guidance and support services to knowledgeable and skilled personnel are the other branch of accountability policies for school improvement. However, in order to cultivate the internal processes that help arrive at the desired increase in quality and performance at schools, an external pressure for control and change in schools should be created. In this sense, these internal and external mechanisms of accountability are seen as inseparable and complementary to each other (Elmore & Fuhrman, 2001; Fuhrman & Elmore, 2004; Hill & Lake, 2002; Hoy & Miskel, 2010; Mazzeo, 2001; Reeves, 2006).

### **External Accountability Mechanisms**

External accountability policies are believed to trigger schools' internal building mechanisms for producing higher quality education services and higher levels of student achievement and have developed many external control points or sources of pressure for raising performance and creating bilateral relations that encompass being called to account and giving intra-school accounts. This situation over the social course of time has formed who will give what results, how they will be explained and to whom, and how they can defend the legitimacy of their actions. These external mechanisms, which exert some stress on schools with differing content, relate to accountability for politics, law, bureaucracy, performance, market, and profession (Adams & Kirst, 1999; Darling-Hammond, 1989; Darling-Hammond & Ascher, 1991; Heim, 1995; Kuchapski, 2001; Stecher & Kirby, 2004; Wagner, 1989).

**Bureaucratic accountability model.** This model describes a mechanism where upper management is authorized to award, punish, and determine the related standards and rules about what is done for providing education services and how. Schools, however, are held responsible based on the hierarchical structural mechanism of being called to account for and give accounts of effective using and processing of inputs and for adopting and fulfilling the aims and rules determined by top management, who will reward or punish them as a result of their actions (Adams & Kirst, 1999; Bovens, 2010; Darling-Hammond, 1990; O'Day, 2002).

**Performance accountability model.** This model changes the focus of interest from education processes and inputs to education results. Performance accountability, derived from expectancy and goal-setting theories, defends the main reason for low school performances as a lack of motivation and willpower. Concordantly, it aims to solve these by implementing policies such as developing an education program for core subjects with high standards, especially for math, science, and reading skills, by evaluating success through standardized tests, by declaring school performance results to the public, by rewarding or punishing schools based on their performance results, and by implementing teacher training and developmental standards (Spencer, 2006). On the other hand, in order to achieve higher academic performance for less cost, performance-accountability policies implement teacher-incentive strategies such as teacher performance contracts and paying for performance (Bruns, Filmer, & Patronas, 2011; Fuhrman, 1999; Mintrop, 2002).

**Market accountability model.** This model defends policy implementations such as sharing the management and control of schools with the local community, leaving the locals to decide about the teaching program, instruction, budgets, and staff. It deregulates the rules exposed by the top authority and benefits from home and environmental factors because it believes schooling is such a technical and complicated process that its problems can't be solved strictly through centralized management. Concordantly, it provides parents with a choice of schools for their children, allowing them to transfer the child to a different school when dissatisfied, and to participate in decision-making and teaching activities for those who have to stay at a school. Furthermore, schools are left to themselves under free-market conditions by removing the rules that regulate schools, expecting them to find their own solutions to their problems. The market accountability model also includes other policies, such as allowing the private sector to open magnet and charter schools, implementing a more competitive financial system in which every child is supported financially by the government through vouchers and tax support, preparing and declaring school performance information for schools to compete for more successful students, and forming school leagues to compare schools based on their performance (Bruns et al., 2011; Chavkin & Williams, 1987, as cited in Parker & Leithwood, 2000; Hill, 1996; Kuchapski, 2001; Leithwood & Earl, 2000; Spencer, 2006).

**Professional accountability model.** This model asserts that the educational system cannot be effectively or efficiently managed through bureaucratic means and regulations because of its highly technical and complicated nature. The model instead says that it becomes possible to reach greater levels of student achievement when appropriate authority and support are provided to qualified school teachers with high competency and knowledge. In order to have such teachers, this model presents professional teaching standards, in which teachers can judge which teaching practices are beneficial, and become responsible to the students, parents, upper management, and the community. These standards also help determine which qualities teacher should have, how they are trained and selected for the profession, and how their performances are evaluated. On the other hand, based on the idea that only teachers who are experts at teaching can bring the best solutions to education's problems, talented and skilled teachers are claimed to have the authority to determine and discuss the problems in school teaching, make their own decisions about what is to be done, and defend their decisions in front of parents, society, the board of directors, or school councils and then put them into practice. Furthermore, this accountability model asserts the benefit of teachers' professional knowledge on budgets, programs, and teacher-related decisions, that it assists their teaching practices and develops inter-teacher cooperation (Bruns et al., 2011; Darling-Hammond, 1985; Hess, 1991; Kuchapski, 2001; Leithwood & Earl, 2000; O'Day, 2002; Ranson, 2003).

However, external accountability policies are claimed to have no positive impact on motivation or student academic achievement. Rather, it has a negative influence on students, the teaching staff, and schools in general. An accountability policy based mainly on higher performance in schools has been criticized for its foundational assumptions; its conceptualizations are thought to be weak and immature (McEwen, Fagan, Earl, Hodgkinson & Maheau, 1995). Similarly, the accountability mechanisms put into practice have not increased schools' academic achievement. Implementing tests, school performance reports, public information, rewards, and punishment are unable to provide the desired changes or developments. Instead they lead to unwanted results in school processes and teachers (Levesque, 2004). In particular, performance accountability practices irritate teachers because teachers carry the burden of a school's low performance and are blamed for lacking the competences that would increase students' academic performance. Afterwards, they lose society's respect, and the rewards given to teachers are claimed to not motivate them any more directly than the punishments that are given when teachers are unsuccessful (Abelmann & Kenyon, 1996; Certo, 2006; Kelley, 1998; Mintrop, 2002; Valli & Buese, 2007).

The integration of accountability policies for school improvement is now on the Turkish educational reform movement's agenda, but the relationship of Anglo-Saxon accountability models established between external stressors and schools has

not yet been tested in a Turkish context. This study, based on Turkish teachers' and principals' views, aims to test a model developed from the literature's claims that in order to increase school academic performance, schools' sense of responsibility and of giving an account should be increased by exerting performance pressures that are provided by the surrounding agents both inside and outside of school. One important point of this study is to reveal evidence that supports the accountability model formed to explain the increase of motivation and performance in schools. Another point helps to determine the most efficient accountability relationships and intervention programs to motivate schools and raise a sense of responsibility among school staff. Moreover, this study helps show the level of probable resistance among teaching staff to different external accountability pressures, which determines the fate of any future accountability pressure on schools.

## Method

### Design

In this research, a literature-based causal model consisting of the variables of academic performance pressures, school accountability, and accountability policies is tested based on the school principals and teachers' views on accountability pressures and policies and their impact on the teaching staff. Therefore, this study follows a causal pattern, which investigates the causal relationships thought to exist among variables (Karadağ, 2009).

In the research, academic performance pressure is the independent variable, whereas school accountability and accountability policies are the dependent variables. Due to the existence of preconditions in time, correlations, and eliminated alternatives, the relationship among variables is thought to be a cause/effect relationship (Neuman, 2007). The literature review supports the causality represented in the model, which says performance pressures and accountability policies cause some variation in the dependent variable of school accountability (Carnoy, Elmore, & Siskin, 2003; Dubnick, 2002; Jordan, 2011; Kogan, 1988; Lerner & Tetlock, 1999; Robinson & Timperley, 2000; Romzek & Dubnick, 1987). Covariance among the variables was detected by evaluating the correlational analysis results. To eliminate any possible alternative explanations, the literature-based theoretical model has been checked through path analysis using the program, LISREL 8.8.

### Population and Sample

The research population consists of 2,552 people in total; 2,310 are teachers and 242 are school principals at public and private elementary, secondary, and high schools in Kütahya province in Turkey. The sample were drawn using the stratified



sampling method based on the three education groups determined according to such teaching conditions as school type, transportation, school facilities, safety, and accessibility. Concordantly, every school from different education groups were first listed separately and then selected randomly according to type: (a) one-teacher elementary schools, (b) elementary schools, (c) secondary schools, (d) general high schools, (e) Anatolian and science high schools, and (f) vocational high schools. In conclusion, the research sample comprises 357 teachers and 154 school principals in total, all of whom have relatively the same socio-economic status and salary.

### Data Collection Tools

In this study, three different scales have been used. The first scale, the Academic Performance Pressures Scale, is for determining the level of different pressures for higher academic achievement from different sources. The second scale, the Accountability Policies Scale, is for determining the level of teachers' and principals' sense of account-giving as a response to those pressures being exerted from different sources. The third scale, the School Accountability Scale, is the one which revealed school principals' and teachers' perceptions about the necessity and importance of accountability policies.

**Academic Performance Pressures Scale.** This scale was developed as a draft from Too's (1989) study on detecting the pressures for academic success on school principals and teachers. It consists of 11 items graded from 1 (no pressure) to 4 (high pressure) using a 4-point Likert scale. Exploratory factor analysis was performed on the first half of the dataset using a principal-axis factor analysis with varimax rotation because of the assumption that the scale has a multifactor structure (Kline, 1994; Rennie, 1997; Stapleton, 1997; Stevens, 1996). To derive the factors from the items, factor loadings and their theoretical suitability were analyzed ( $KMO = .80$ , Bartlett's  $p < .01$ ). The items with factor loadings less than .40 for all factors were eliminated. Next, Cronbach alpha reliability coefficients were calculated for each factor. As a result, a three-factor structure emerged that explains 66.67% of the variance. Then as the result of the confirmatory factor analysis carried out on the other half of the dataset to determine the scale's structural validity, the small Chi-square value ( $\chi^2 = 343.14$ ,  $df = 207$ ,  $p < .01$ ) and the other goodness-of-fit indices ( $GFI = 0.94$ ,  $AGFI = 0.95$ ,  $PGFI = 0.91$ ,  $RMSEA = 0.04$ ,  $CFI = 0.95$ ) showed that the factor structure of the scale is appropriate. As a result of both exploratory and confirmatory factor analyses, the following three factors were discovered: school shareholders' pressures (five items,  $\alpha = .83$ ), social environment pressures (three items,  $\alpha = .81$ ), and bureaucratic pressures (three items,  $\alpha = .81$ ).

**School shareholder pressure.** Higher scores for this indicate that those mostly influenced by the results of a school's practices and outcomes, such as teachers,

parents, family–school unions, students, and principals, apply pressure on schools for higher academic achievement.

**Social environment pressures.** Higher scores here indicate that, out of schools, local media, and tradesmen and craftsmen groups, some pressure on schools exists for higher levels of academic achievement from the local community.

**Bureaucratic pressures.** Higher scores here indicate that the upper management (school principals, provincial directors of national education, and supervisors) exert pressure on the school teaching staff for higher levels of academic achievement.

**School Accountability Scale.** This scale was developed as a draft from Too's (1989) study on detecting how teaching staff respond to external pressure for achievement from different sources. It consists of 11 items graded from 1 (no obligation) to 4 (high obligation) on a 4-point Likert scale. Exploratory factor analysis was performed on the first half of the dataset using a principal-axis factor analysis with varimax rotation. The items with factor loadings less than .40 for all factors were eliminated. As a result, a three-factor structure emerged that explains 65.59% of the variance ( $KMO = .79$ , Bartlett's  $p < .01$ ). Afterwards, Cronbach alpha reliability coefficients were calculated for each factor and confirmatory factor analysis was carried out on the other half of the dataset to determine the scale's structure validity. Consequently, the small Chi-square value ( $\chi^2 = 401.23$ ,  $df = 211$ ,  $p < .01$ ) and other goodness-of-fit indices ( $GFI = 0.91$ ,  $AGFI = 0.90$ ,  $PGFI = 0.90$ ,  $RMSEA = 0.05$ ,  $CFI = 0.92$ ) showed the factor structure of the scale to be appropriate. As a result of both exploratory and confirmatory factor analyses, the following three factors were discovered: towards school shareholders (five items,  $\alpha = .79$ ), towards social environment (three items,  $\alpha = .80$ ), and towards bureaucracy (three items,  $\alpha = .77$ ). These factors are summarized below.

**Towards school shareholders.** High scores for this indicate that the school teaching staff feels responsible to give an account for higher-level academic outcomes toward the main actors in the teaching processes, such as other teachers, parents, or family-school committees.

**Towards social environment.** High scores for this indicate that the school teaching staff feels obligated toward the local community, local media, and occupational organizations to account for the rise in academic achievement.

**Towards bureaucracy.** High scores for this subscale indicate that the teaching staff feels obligated towards the upper management in a hierarchical order (e.g., school principals, middle-level provincial and national administrators, and supervisors) to reach higher levels of academic achievement.

**Accountability Policy Scale:** This scale was developed as a draft based on the studies of Bradshaw (2003) and Too (1989) and improved through a literature review on accountability policies and practices. Educational accountability policy is defined in this study as the external mechanism to increase motivation at schools for higher level academic achievement. It consists of items graded from 1 (strongly disagree) to 5 (strongly agree) using a 5-point Likert scale. Exploratory factor analysis was performed on the first half of the dataset using a principal-axis factor analysis with varimax rotation ( $KMO = .89$ , Bartlett's  $p < .01$ ). Items were excluded that have factor loadings less than .40 for all factors. As a result, an eleven-factor structure emerged that explains 59.89% of the variance. Afterwards, Cronbach alpha reliability coefficients were calculated for each factor, then confirmatory factor analysis was carried out on the other half of the dataset to determine the scale's structural validity. Consequently, the small Chi-square value ( $\chi^2 = 926.18$ ,  $df = 542$ ,  $p < .01$ ) and other goodness-of-fit indices ( $GFI = 0.90$ ,  $AGFI = 0.89$ ,  $PGFI = 0.91$ ,  $RMSEA = 0.07$ ,  $CFI = 0.90$ ) show the factor structure of the scale to be appropriate. As a result of both exploratory and confirmatory factor analyses, the following four components with eleven factors were drawn: professional accountability (professional development [eight items,  $\alpha = .91$ ], teacher autonomy [two items,  $\alpha = .79$ ], professional competencies [two items,  $\alpha = .77$ ]); performance accountability (academic standards [two items,  $\alpha = .76$ ], student achievement exams [two items,  $\alpha = .75$ ], performance evaluations [three items,  $\alpha = .77$ ], responsibility and rewards [four items,  $\alpha = .82$ ], punishment and sanctions [five items,  $\alpha = .85$ ]); market accountability (parental participation [five items,  $\alpha = .81$ ], academic standards [two items,  $\alpha = .76$ ], information [two items,  $\alpha = .75$ ]), and bureaucratic accountability (legislative alignment [two items,  $\alpha = .74$ ]). These factors and components are summarized below.

**Professional development.** In this subscale, high scores indicate that both principals and teachers support developing learning environments that help improve their field knowledge and skills, pedagogy, and administration. Two sample items for this factor are:

- a. Education programs should be initiated for developing teacher knowledge and skills.
- b. An environment should be created where teachers can increase their knowledge and experience among themselves.

**Teacher autonomy.** High scores indicate that the teaching staff supports policies that plan teaching processes and programs; the execution of these plans should be handed over to teachers' expertise and appreciation, therefore empowering them.

Sample items are:

- a. Schools should be authorized to develop their own teaching program according to the standards set by the central government.
- b. When teaching-related decisions are left to teachers' expertise, the school will increase student success.

**Professional competency.** High scores here indicate that the teaching staff agree with the idea that school administrators and teachers need to show they have the necessary knowledge and skills for their duties, teaching methods, techniques, and management. The items for this factor are:

- a. Career standards should be established for school directors.
- b. Interns who have started their duty and are successful in performance evaluations should be given the right to work in an educational institution.

**Student achievement exams.** High scores for this indicate that the teaching staff supports monitoring, revealing, and comparing students' achievements that are equipped through the school's teaching. The related items are:

- a. Parents should be notified of the school's academic performance results by comparing them with other schools.
- b. Students' class-success levels should be measured with a centralized exam at certain times.

**Performance evaluation.** High scores here indicate that the teaching staff supports that teachers keep upper management informed about students' academic results, and teachers should be evaluated by the school principal based on their students' achievements. The related items are:

- a. Teachers should report their students' academic performance scores to the principal.
- b. Teachers' performance must be evaluated by the principal every year.

**Responsibility and rewards.** High scores for this indicate that the teaching staff supports that teachers and schools are responsible for their students' academic achievement and should be rewarded when they are successful. These items are:

- a. Schools that increase students' academic performance should be rewarded.
- b. Despite all difficulties, teachers must endeavor to develop classroom education.

**Punishment and sanctions.** High scores here indicate that the teaching staff agrees that principals and schools primarily need to be given the necessary support for improvement when they fail to increase student performance; those who keep failing should be punished and sanctioned. The items are as follows:

- a. Despite developing support, teachers who cannot increase student academic performance will be transferred to another school.
- b. Despite developing support, school directors that cannot increase student academic performances should be dismissed.

**Participation.** High scores here indicate that the teaching staff supports the idea that parents should take part in making decisions and in the teaching practices. These items are:

- a. Parents must have more rights to speak up for making decisions about school management.
- b. The school education program should be prepared according to local and parental preferences.

**Academic standards.** High scores for this indicate that the teaching staff supports that parents', citizens', and upper management's expectations for students' achievement keep schools focused on targets and motivate them to reach their targets. These items are:

- a. Parents' expectations on school performances determine school staff behavior.
- b. Teachers' main duty should be to increase students' academic success.

**Information.** High scores here indicate that the teaching staff supports the public's need to be notified about information on students' performance problems as well as opportunities that schools present. The items are as follows:

- a. Information about students' performance problems should be generated.
- b. Schools should provide parents with information about the opportunities they provide students.

**Legislative alignment.** High scores for this indicate that the teaching staff supports that teaching practices should obey the rules as set forth by the upper management. The items are:

- a. The education process in schools should be carried out according to the Ministry' rules and regulations.
- b. Education services at schools should be inspected according to their legislative suitability to increase student success.

## Procedure

The main goal of the research is to test the theoretical model that defines the determinants of school accountability and the behaviors that provide accountability in schools. The fit for the theoretical model to the empirical data was tested with the help of path analysis. As such, a theoretical model was first established between the exogenous variables (school shareholders' pressure, social-environment pressure, and bureaucratic pressure) and the endogenous variables (professional development, teacher autonomy, professional competencies, academic standards, student achievement exams, performance evaluations, responsibility and rewards, punishments and sanctions, parental participation, academic standards, information, legislative alignment, professional accountability, performance accountability, market accountability, bureaucratic accountability and accountability towards shareholders, accountability towards the social environment, and accountability towards the bureaucracy). Secondly, the associations between the model's variables using Pearson's product-moment correlation analysis were defined, and then the goodness-of-fit indices were calculated to determine the model's fitness to the empirical data. The indices used are the goodness-of-fit index (*GFI*), adjusted goodness-of-fit index (*AGFI*), root-mean-square error of approximation (*RMSEA*), Chi-square ( $\chi^2$ ), degrees of freedom (*df*), the ratio of  $\chi^2 / df$ , and the *t*-coefficient. Although controversial in the literature, coefficients obtained from *GFI* and *AGFI* that range from 0 to 1 are evaluated as a good fit when higher than .85 (Anderson & Gerbing, 1984; Cole, 1987) or .90 (Kline, 2005; Schumacker & Lomax, 1996). An *RMSEA* value for margin of error that ranges from 0 to 1 between the observed and generated matrix should be closer to 0 for fitness; therefore, values of 0.1 or less are considered a good fit. While an  $\chi^2 / df$  between 2 and 5 is considered a good fit, values below 2 are considered a perfect fit (Jöreskog & Sörbom, 2001). In the research, LISREL 8.80 was used for path analysis, and IBM SPSS Statistics 20 was used for the other analyses.

## Results

### The Results of Correlation Analysis Related to the Theoretical Model

Table 1 displays the correlation coefficients among the variables. The Pearson correlation calculations show that the sense of account-giving for academic performance, accountability pressures, and policies for performance correlate to each other positively or negatively. Accountability pressures for academic performance variables moderately and positively correlate to sense of account giving (from  $r = .31$  to  $r = .45$ ). Correlations between the variables of accountability pressures and accountability policies (from  $r = -.05$  to  $r = .10$ ), and between the variables of accountability policies and sense of account-giving (from  $r = .05$  to  $r = .16$ ) are both weak ( $p < .05$ ).

Table 1. The Pearson Product Moment Correlation Matrix Relations between Academic Performance Pressures, Accountability Policies and School Accountability Scales

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
<b>Academic Performance Pressures Scale</b>																					
1-School Shareholder Pressures	1	.33**	.45**	.42**	.16**	.11**	.04	.03	-.05	.00	.10*	.11	.05	.05	.05	.00	.05	.09*	-.02	.08	.00
2-Social Environment Pressures		1	.31**	.16**	.32**	.28**	-.01	.018	-.033	-.05	.10*	-.04	.00	-.04	.03	.05	-.04	.02	-.00	-.03	-.05
3-Bureaucratic Pressures			1	.16**	.11**	.34**	.00	-.11**	-.05	-.11**	.08	.05	.00	-.03*	-.06	-.03	-.03	.02	-.12**	-.02	-.03
<b>School Accountability Scale</b>																					
4-To School shareholders				1	.52**	.52**	.12**	.07	.10*	.07	.04	.12	.02	.01	.05	.05	.01	.07	.07	.10*	.05**
5-To Social Environment					1	.39**	.05	.15**	-.00	.09*	.07	.02	.04	-.00	.00	.13**	-.00	.05	.08	.07	.13**
6- To Bureaucracy						1	.05	.00	.07	.00	.07	.07	.04	.00	.02	.16**	.00	.06	.01	.06	.16**
<b>Accountability Policies Scale</b>																					
7-Professional Development							1	.15**	.51**	.27**	.37**	.46	.24**	.39**	.34**	.14**	.39	.72**	.41**	.47**	.14**
8-Punishments and Sanctions								1	.22**	.28**	.09*	.03	.16**	.28**	.37**	.22**	.28	.24**	.68**	.23**	.22**
9-Responsibility and Rewards									1	.17**	.24**	.30	.31**	.32**	.36**	.19**	.32	.45**	.63**	.39**	.19**
10-Parent Participation										1	.26**	.20	.18**	.22**	.24**	.03	.22	.33**	.32**	.65**	.03**
11-Teacher Autonomy											1	.25	.12**	.23**	.12**	-.03	.23	.74**	.20**	.31**	-.03**
12-Information												1	.19	.19	.26	.04	.24	.40	.28	.66	.04
13-Academic Standards													1	.15**	.29**	.17**	.15	.22**	.39**	.71**	.17**
14-Student Achievement Exams														1**	.26**	.17**	.16	.76**	.38**	.30**	.17**
15-Performance Evaluations															1	.16**	.26	.31**	.72**	.39**	.16**
16-Legislative Alignment																1	.17	.11**	.27**	.13**	1.00**
17-Professional Competencies																	1	.76	.32	.35	.17
18-Professional Accountability Policies																		1	.43**	.46**	.11**
19-Performance Accountability Policies																			1	.49**	.27**
20-Market Accountability Policies																				1	.13**
21-Bureaucratic Accountability Policies																					1

n = 511, \*p < .05, \*\* p < .01.

### Parameter Estimates and Goodness-of-Fit Indices

Table 2 displays the goodness-of-fit indices, which reveal the theoretical model's validity as contributed by the causally-related variables of school accountability, accountability policies, and academic performance pressures. The theoretical model's goodness of fit was determined through *RMSEA*,  $\chi^2$ ,  $\chi^2 / df$ , *GFI*, and *AGFI*. The calculations show that the *RMSEA* value, which reveals the mean of the covariance and variance unexplained by the model, is found to be .08; this is regarded as an adequate fit (MacCallum, Browne, & Sugawara, 1996). The *GFI* value is found to be .90, which indicates the rate of relation between the theoretical model's covariance and variance is explained. The *AGFI* goodness-of-fit value is found to be .88; both these values demonstrate that the theoretical model fits the data obtained (Hoyle & Panter, 1995; Kline, 2005; Schumacker & Lomax, 1996). Additionally, the ratio of  $\chi^2 / df$ , which represents the goodness of fit between the observed and increased covariance matrices, is calculated to be 1.12. This means the model is acceptable (Hair, Black, Babin, & Anderson, 2010; Jöreskog & Sörbom, 2001; Schumacker & Lomax, 1996). These parameters all indicate that the predicted model fits the observed data.

Table 2  
Goodness of fit parameters for the Model of School Accountability for Academic Performance

Fit Parameters	Coefficients
<i>GFI</i>	0.90
<i>AGFI</i>	0.88
<i>RMSEA</i>	0.08
<i>Df</i>	642
$\chi^2$	719.42
$\chi^2 / df$	1.12

Tables 3 and 4 show the path analysis results for the relationship among the theoretical model's latent variables of academic performance pressures, accountability policies, and school accountability. A diagram showing the result of the theoretical model's path analysis is shown in Figure 1. According to the findings, the path coefficients that show the direct effects from the subscale of academic performance pressures on the School Accountability Scale and the Accountability Policies Scale are found to be statistically significant. The direct effect of a single unit of variance in the exogenous variable of school stakeholder pressure on the endogenous variables of accountability towards school stakeholders and of market accountability policy are .55 and .11, respectively. The direct effect of a single unit of variation in the exogenous variable of social environment pressure on the endogenous variables of accountability towards the social environment and of bureaucratic accountability policy are .49 and .37, respectively. Finally, the direct impact of a single unit of variance in the exogenous variable of bureaucratic pressure on the endogenous variables of bureaucratic accountability and of performance accountability policies are .31 and -.10, respectively. On the other hand, all parameters except for these are determined to be statistically insignificant.



Table 3  
Path Coefficients and Significance Values Related to School Accountability Policy

Exogenous and endogenous variables	Stakeholders' Pressure for Performance [d <sub>1</sub> ] Path Coefficients		Social Environment's Pressure for Performance [d <sub>2</sub> ] Path Coefficients		Bureaucratic Pressure for Performance [d <sub>3</sub> ] Path Coefficients	
	t	$I_y^x$	t	$I_y^x$	t	$I_y^x$
School accountability sub-scales						
1- Accountability to school shareholders [x <sub>1</sub> ]	8.59	.55*	1.87	.13	-0.83	-.04
2- Accountability to socio-environment [x <sub>2</sub> ]	1.08	.06	8.64	.49*	-0.17	-.01
3- Accountability to bureaucracy [x <sub>3</sub> ]	0.45	.04	4.47	.37*	5.43	.31*
Accountability policies scale components						
4- Professional Accountability Policies [x <sub>4</sub> ]	1.84	.09	-0.06	.00	-0.54	-.02
5- Performance Accountability Policies [x <sub>5</sub> ]	0.42	.02	0.96	.05	-2.96	-.10*
6- Market Accountability Policies [x <sub>6</sub> ]	2.37	.11*	-1.29	-.06	-1.15	-.04
7- Bureaucratic Accountability Policies [x <sub>7</sub> ]	-.01	-.01	1.50	.13	-0.95	-.06

\*  $p < .05$ .

The direct influence of a one-unit variance in the variable of bureaucratic accountability policy on the variable of accountability to socio-environment and accountability to bureaucracy is .09 and .16, respectively; where all other parameters are statistically insignificant.

Table 4  
Path Coefficients and Significance Values Related to School Accountability Policy (Continued)

Exogenous and endogenous variables	Professional Accountability Policies [d <sub>1</sub> ] Path Coefficients		Performance Accountability Policies [d <sub>2</sub> ] Path Coefficients		Market Accountability Policies [d <sub>3</sub> ] Path Coefficients		Bureaucratic Accountability Policies [d <sub>4</sub> ] Path Coefficients	
	t	$I_y^x$	t	$I_y^x$	t	$I_y^x$	t	$I_y^x$
School accountability subscales								
1- Accountability to stakeholders [x <sub>8</sub> ]	-0.56	-.02	1.23	.05	0.27	.05	0.58	.02
2- Accountability to socio-environment [x <sub>9</sub> ]	0.08	.00	0.80	.03	1.06	.04	2.29	.09*
3- Accountability to bureaucracy [x <sub>10</sub> ]	0.35	.01	-0.80	-.03	1.63	.07	4.10	.16*

\*  $p < .05$ .

### Discussion and Theoretical/Practical Implications

Some significant effects have been identified as a result of the path analysis performed to determine the effects of both academic performance pressures and accountability policies on the accountability of school principals and teachers toward improving academic success. The goodness-of-fit indices are sufficient, as calculated in the path analyses based on the data set.

Among the effects, the hypothesis that the pressure of academic performance from school stakeholders prompts school teaching staff to make statements to school stakeholders about the academic performance to justify results has been accepted. Some empirical studies in the literature exist that support this finding. [Jithitikulchai \(2013\)](#) found that parents' requests, the mounting pressure to enhance academic success, and the pressure created from teachers' peer reviews increase the accountability of school staff, thus increasing academic performance. [Deci, Spiegel, Ryan, Koestner, and Kauffman \(1982\)](#) and [Flink, Boggiano, and Barrett \(1990\)](#), have also ascertained that teachers who work to achieve higher levels of student achievement in different studies try to control teaching with a higher sense of responsibility and motivation compared to other teachers; they make more efforts toward student success. Secondly, academic performance pressure that comes from the social environment prompts school staff to give an account to both the local society and bureaucracy of students' achievement levels and self-justify their deeds. Today, efforts are being made to build parent- and community-based leadership, particularly in the United States, for developing low-performance schools. Such a civil society initiative fosters a strategy to hold schools more accountable in order to increase students' academic achievement by creating a coercive force upon them ([Henderson & Mapp, 2002](#)). [Rouse, Hannaway, Goldhaber, and Figlio \(2007\)](#) suggested that out-of-school performance pressures lead teaching staff to produce performance-enhancing policies. [Emerson, Fear, Fox, and Sanders \(2012\)](#) also noted that a school community formed by students, teachers, and local families shape student and parent behaviors, as well as school education and teaching policies and activities, to meet the needs of students and to improve academic performance. Thirdly, the hypothesis was accepted that bureaucracy-based academic performance pressures push the school teaching staff to try to justify and explain their academic performance results to the upper bureaucracy. According to [Jithitikulchai \(2013\)](#), bureaucratic pressure was put on the school staff through evaluation exams that determine student achievement levels; thanks to this, school staff acted with greater accountability. [Locke and Latham \(2002\)](#) pointed out that specific, challenging, but achievable performance targets that are set by senior management increase individuals' motivation and therefore their performance. [Barrett \(2005\)](#) found out that, based on the Tanzanian example, the local community and education bureaucracy were influential in forming teachers' responsibilities and identities. When any pressure for greater student success was increased by school stakeholders, or social environment, or upper management authorities, the accompanying sense of necessity to give an account of their deeds to the school shareholders, social environment, and bureaucracy also increased, as supported by the studies ([Anderson, 2005](#); [Bruno et al., 2011](#); [Leithwood & Menzies, 1998](#); [World Bank, 2003](#)). In another study, [Ada, Akan, Ayık, Yıldırım, and Yalçın \(2013\)](#) argued that school management that values greater student academic achievement and expects this from the teachers and parents who

have higher expectations from teachers and their involvement in teaching practices increases teachers' motivation. In a study conducted in private schools by [Türkoğlu \(2015\)](#), schools that have work contracts with teachers, where the managers, parents, and students have higher expectations of success and where teacher performance is monitored and evaluated, also increase teacher responsibility and motivation. Other two studies by [Özen \(2011\)](#) and [Kardaş \(2016\)](#) indicated that teachers and principals have very little performance pressure placed upon them, and showed that teachers and principals prefer complying with and fulfilling government regulations that are not directly related to teaching, learning, or academic achievement. Therefore, if teachers' and principals' sense of responsibility for student learning plays a big role in producing a healthier environment for student learning and increases student success, then the accompanying intervention should focus on creating a school atmosphere where each external agent of the upper bureaucracy, parents, school community, and teachers should strongly communicate their expectations from student learning and school performance.

The hypothesis, that stakeholders' pressure on schools for greater student achievement increases the support for market accountability policies, has been accepted. This finding is confirmed by other studies' results ([Leithwood & Menzies, 1998](#); [Organization for Economic Cooperation and Development, 2011](#); [United Nations Educational, Scientific, and Cultural Organization, 2014](#); [Westthorp et al., 2014](#); [World Bank, 2003](#)). In these studies, as student, parent, and teacher pressures demanding higher achievement increase in schools, teachers and administrators adopt more policies such as parental participation in school decisions, producing performance information and disseminating it to the public, and establishing expectations and standards for student success. Parents see teachers as having the primary responsibility for improving students' academic performance. Parents, especially of students with low academic performance, demand more from schools to further improve performance. These parents prefer to work with teachers in a coordinated manner and to be involved in their teaching processes and decisions. They request feedback on all aspects of the school, their knowledge, and performance. Such participation is also supported by teachers ([Russell & Granville, 2005](#)). Regular interactions and communication between parents and teachers is said to lead schools to support parental participation in decision making and processes, as well as to collaborate so as to provide parents the necessary information and tools for teaching ([Ferguson, 2008](#)).

The hypothesis that support for performance accountability policies among teaching professionals diminishes as bureaucracy-based academic performance pressures on schools increase has been accepted. Bureaucratic performance pressures create a negative reaction among teaching professionals toward teachers

and principals being held accountable for students' academic performance, making student achievement evaluations, assessing teacher and principal performance, awarding successful schools, or punishing unsuccessful ones. This dissatisfaction with performance accountability policies is confirmed by studies (Herman & Golan, 1991; Ikeler, 2010; Mathers, 2000). Likewise, in the case of performance accountability, some inappropriate practices and behaviors can emerge to prove the school is high-performing, such as narrowing the curriculum, teaching for a test, including high performing students but excluding low performers (Figlio & Loeb, 2011).

Lastly, the hypothesis that teachers who support compliance with legislation for higher academic performance try to justify themselves and their labor against the upper bureaucracy and their socio-environment has been accepted. From this, one can consider that teachers who advocate compliance with legal regulations and norms for high performance are naturally influenced by the community and the state as regulatory and rule-making authority in front of school advocates. Here, while the rules are blessed by teachers, one can deduce that these rules are not followed in the course of teaching, and when duties and responsibilities are not carried out as anticipated, low performance results in school. In other words, teachers need to believe in the importance of monitoring the teaching processes and to check that they are done correctly so as to determine what the teachers and school administrators have been doing wrong in regard to teaching to make the necessary corrections; they need to believe that following the rules and regulations is important for their own career and professional development and to naturally feel responsible and try to act in accordance with the rules (Kutsyuruba, 2003).

When considering the research findings as a whole, one can conclude that while academic performance pressures on schools from different sources strongly influence the accountability of school staff to give reasons for their behavior and their efforts to air themselves, there is often no impact from performance pressures on the accountability policies the school staff adopts, and no impact of adopted school policies on school accountability. This finding can be interpreted as the theory of school accountability, which has developed within the Anglo-Saxon mentality and practice and has shaped more developed countries' education systems, does not work within the Turkish education system nor its accompanying culture and practices. On the other hand, one can say that any increase of performance pressure on schools from upper bureaucracy will more likely result in resistance to the performance accountability policy, while an increase in school-stakeholder pressure will likely produce agreement with the market accountability policy. In this sense, market accountability policy will welcome school teaching staff and lead to cooperation and collaboration between parents and school. On the contrary, any bureaucratic pressure for student performance on schools will result in a rejection of its accompanying

performance accountability policy. This may result from feelings of inadequacy or lack of the required teaching capacity at schools for higher-performing students. In this sense, any intervention to increase student academic performance should not focus on any external control mechanisms but on the school’s capacity building practices and assistance in developing both school and teacher capacities, which instead will eventually allow for the realization of a quality learning environment and teaching process.

Furthermore, the theoretical model created based on the literature represents just 10% variance in school accountability behaviors. Therefore, the model must be enlarged by adding different variables. In order to define and understand the relationships among the current performance pressures, accountability policies, and accountability behaviors of school professionals, some qualitative evidence should be collected and analyzed.

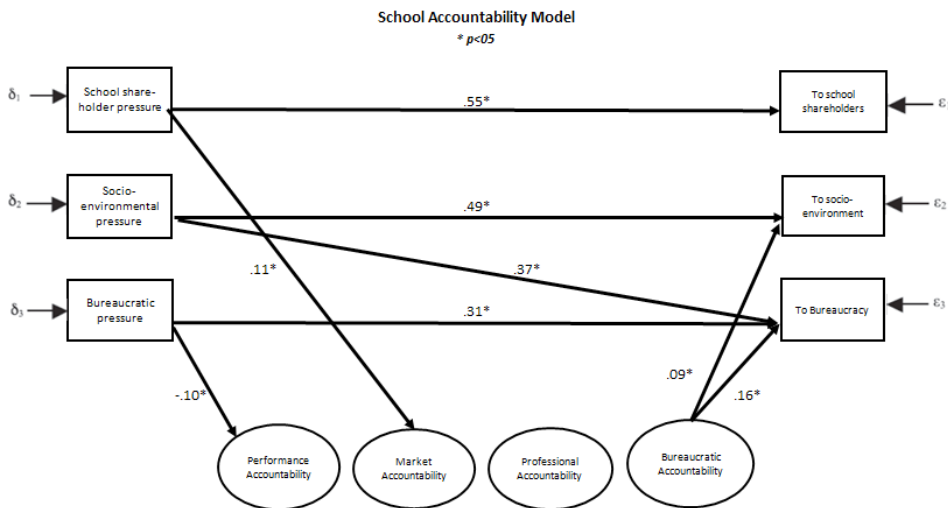


Figure 1. School Accountability Model Path Analysis Diagram

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