

THE RELATIONSHIP BETWEEN DISTRIBUTED LEADERSHIP,
ENABLING SCHOOL STRUCTURE, TEACHER COLLABORATION,
ACADEMIC OPTIMISM AND STUDENT ACHIEVEMENT:
A SCHOOL EFFECTIVENESS MODEL

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF SOCIAL SCIENCES
OF
MIDDLE EAST TECHNICAL UNIVERSITY

BY

YUSUF İKBAL OLDAÇ

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR
THE DEGREE OF MASTER OF SCIENCE
IN
THE DEPARTMENT OF EDUCATIONAL SCIENCES

AUGUST 2016

Approval of the Graduate School of Social Sciences

Prof. Dr. Tlin Gen z
Director

I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Science.

Prof. Dr. Cennet Engin-Demir
Head of Department

This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Science.

Assoc. Prof. Dr. Ya ar Kondak ı
Supervisor

Examining Committee Members

Prof. Dr. Sadegl Akbaba Altun (Ba kent Uni., EDS)

Assoc. Prof. Dr. Ya ar Kondak ı (METU, EDS)

Assist. Prof. Dr. Ye im  apa Aydın (METU, EDS)



I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

Name, Last name : Yusuf İkbāl Oldaç

Signature :

ABSTRACT

THE RELATIONSHIP BETWEEN DISTRIBUTED LEADERSHIP, ENABLING SCHOOL STRUCTURE, TEACHER COLLABORATION, ACADEMIC OPTIMISM AND STUDENT ACHIEVEMENT: A SCHOOL EFFECTIVENESS MODEL

Oldaç, Yusuf İkbāl

M.S., Department of Educational Sciences

Supervisor: Assoc. Prof. Dr. Yaşar Kondakçı

August 2016, 169 pages

The purpose of this study was to test a school effectiveness model investigating the relationship between student achievement and a set of school-level variables including distributed leadership, enabling school structure, teacher collaboration, and academic optimism. The data for this study were collected from schools located in 3 districts of Adana, Turkey. The sample consisted of 23053 students and 426 teachers from randomly selected 40 public schools.

For the purposes of this study, Hierarchical Linear Modeling (HLM) analysis was conducted using HLM7 software. HLM accounted for the multilevel nature of the data by nesting student level data to school level. HLM results revealed that collective efficacy dimension of academic optimism had the strongest relationship with student

achievement differences between schools. Further, trust in clients and hindering bureaucracy had significant relationship with between-school variation in student achievement, too. On the contrary, distributed leadership, teacher collaboration, enabling bureaucracy, and academic emphasis did not significantly relate to across-school differences in student achievement. The proposed HLM model explained 60.5% of the between-school variation in student achievement and thus, decreased the unexplained between-school variation among total variation to 7.44%.

Overall, the results suggested that more attention on teachers' belief in themselves that they can make a difference is necessary. Also, school-family relationships could be important in increasing student achievement as faculty trust in clients was found to be an important factor. Further, concepts such as academic optimism and hindering bureaucracy may need some revision especially for their validity in highly centralized schooling systems such as Turkey's.

Keywords: school effectiveness, distributed leadership, enabling school structure, teacher collaboration, academic optimism

ÖZ

PAYLAŞILAN LİDERLİK, KOLAYLAŞTIRICI OKUL YAPISI, MESLEKİ İŞBİRLİĞİ, AKADEMİK İYİMSERLİK VE ÖĞRENCİ BAŞARISI ARASINDAKİ İLİŞKİ: BİR OKUL ETKİLİLİĞİ MODELİ

Oldaç, Yusuf İkbāl

Yüksek Lisans, Eğitim Bilimleri Bölümü

Tez Yöneticisi: Doç. Dr. Yaşar Kondakçı

Ağustos 2016, 169 sayfa

Bu çalışmanın amacı, öğrenci başarısı ile paylaşılan liderlik, kolaylaştırıcı okul yapısı, mesleki işbirliği ve akademik iyimserlik değişkenlerini içeren bir grup okul seviyesi değişken arasındaki ilişkiyi inceleyen bir okul etkililiği modelini test etmektir. Çalışmada kullanılan veri, Adana ilinin 3 ilçesinden toplanmıştır. Çalışmanın örneklemini rastgele seçilmiş olan 40 resmi okuldan 23053 öğrenci ve 426 öğretmen teşkil etmektedir.

Çalışma amaçları doğrultusunda, HLM7 programı kullanılarak Hiyerarşik Lineer Modelleme (HLM) analizi yapılmıştır. HLM öğrenci düzeyindeki verileri onların kayıtlı bulundukları okullara gruplayarak verinin çok düzeyli doğasına uygun bir analiz yapılmasına olanak sağlamıştır. HLM sonuçları akademik iyimserlik değişkeninin alt boyutu olan öğretmenlerin kolektif öz yeterliğinin diğer değişkenlere

kıyasen okullar arası öğrenci başarıları farklılıkları ile en güçlü ilişkiye sahip olduğunu göstermiştir. Ayrıca, aileye ve öğrenciye olan güven ve engelleyici bürokrasi yapısı değişkenlerinin de okullar arası başarı farkı ile anlamlı bir ilişki içinde olduğu gözlemlenmiştir. Bunların dışında, paylaşılan liderlik, mesleki işbirliği, kolaylaştırıcı okul yapısı ve akademik vurgu değişkenleri ile okullar arası başarı farklılıkları arasında anlamlı bir ilişki gözlemlenmemiştir. Önerilen HLM modeli okullar arası öğrenci başarı farklılıklarının 60.5%'ini açıklamış ve toplam varyasyon içerisinde açıklanmayan okullar arası farklılıkları 7.44% değerine düşürmüştür.

Genel olarak değerlendirildiğinde, çalışma sonuçları öğretmenlerin fark yaratacağına olan inançlarının üzerine daha fazla düşülmesi gerektiğini göstermektedir. Ayrıca, okul-aile ilişkilerinin geliştirilmesinin öğrenci başarısını artırmada etkili olabileceği sonuçlar bağlamında öne sürülebilir. Ek olarak, akademik iyimserlik ve engelleyici bürokrasi gibi kavramların öğrenci başarısına etkileri konusunda özellikle Türkiye gibi merkeziyetçi eğitim sistemine sahip ülkelerde farklı ülkelerde olduğu gibi geçerliliklerinin sağlanması için bir revizyona ihtiyaçları olduğu söylenebilir.

Anahtar Kelimeler: Okul etkililiği, paylaşılan liderlik, kolaylaştırıcı okul yapısı, mesleki işbirliği, akademik iyimserlik



To my family

ACKNOWLEDGEMENTS

This thesis is the product of a dedication to improving education quality and making people's life better. It is a result of relentless effort and determination. However, I should acknowledge that this thesis is in its form today thanks to several people.

First and foremost, I would like to express my gratefulness to my supervisor Assoc. Prof. Dr. Yaşar Kondakçı. His kind attitude towards me every time I knocked his door and his patient answers to my endless questions have been invaluable. I am endlessly grateful for his guidance and encouragement for this thesis work and also for my other academic endeavors. I gained a lot of experience, knowledge and confidence as a researcher and academic by working with him through various projects. I feel honored and privileged to be his student.

Moreover, I would like to show my gratitude to my thesis committee members Assist. Prof. Dr. Yeşim Çapa Aydın and Prof. Dr. Sadegül Akbaba Altun. Their constructive feedback and positive attitude played a crucial role in significantly improving this thesis.

Also, I had the assistance of very kind-hearted and helpful people in the process of data collection. First of all, I am thankful to Bilal Oldaç and Yusuf Oldaç for their help in this matter. Without their assistance, the data collection process could not have been done in this efficient manner. Furthermore, I would also like to show my gratitude to Seyhan Çelik, the head of Sarıçam District Directorate of National Education, for his magnanimity and kind assistance to this thesis during the process of data collection.

Additionally, I am grateful to all the people working in Adana Provincial Directorate of National Education for their positive and helpful attitude during the bureaucratic procedures of obtaining official permissions to collect data in the schools of Adana, Turkey.

Further, there are more people than I have been able to mention so far who played important roles in this work. I have always felt the support of my family, including my father, mother and two little sisters, throughout the writing process of this thesis. Without their support, this process would have been a lot harder.

Besides, I would like to express my sincere thanks to my roommates, Fethi Kurtiy Şahin and Zeynep Tuba Sungur, for their understanding during the writing process. Additionally, I am thankful to all the people working in the Graduate School of Social Sciences, my workplace, for their positivity and benevolence.



TABLE OF CONTENTS

PLAGIARISM	iii
ABSTRACT	iv
ÖZ	vi
DEDICATION	viii
ACKNOWLEDGEMENTS	ix
TABLE OF CONTENTS	xi
LIST OF TABLES	xiv
LIST OF FIGURES	xv
LIST OF ABBREVIATIONS	xvi
CHAPTER	
1 INTRODUCTION	1
1.1 BACKGROUND OF THE STUDY	1
1.2 PURPOSE OF THE STUDY	8
1.3 SIGNIFICANCE OF THE STUDY	9
1.4 DEFINITION OF TERMS	13
2 LITERATURE REVIEW	15
2.1 SCHOOL EFFECTIVENESS RESEARCH	15
2.1.1 Brief history of school effectiveness research	17
2.1.2 Different approaches to school effectiveness	18
2.2 LEADERSHIP AND STUDENT ACHIEVEMENT	25
2.2.1 Distributed leadership	31
2.3 INFORMAL STRUCTURE: TEACHER COLLABORATION	42
2.4 FORMAL STRUCTURE: ENABLING SCHOOL STRUCTURE	48

2.4.1	Formalization	49
2.4.2	Centralization	50
2.5	ACADEMIC OPTIMISM.....	60
2.5.1	Components of academic optimism	61
2.5.2	Studies on academic optimism and student achievement	73
2.6	SUMMARY OF THE LITERATURE REVIEW	77
3	METHOD.....	79
3.1	DESIGN OF THE STUDY	79
3.2	SAMPLING	80
3.2.1	Participants	81
3.3	DATA COLLECTION PROCEDURE	85
3.4	INSTRUMENTATION	86
3.4.1	Distributed Leadership Scale	87
3.4.2	Teacher Collaboration Subscale of Teacher Leadership Culture Scale	88
3.4.3	Enabling School Structure Scale	88
3.4.4	Schools' Academic Optimism Scale	89
3.5	DATA ANALYSIS	90
3.5.1	Description of the variables.....	95
3.5.2	Centering	96
3.6	LIMITATIONS OF THE STUDY	96
4	RESULTS.....	100
4.1	MISSING VALUE ANALYSIS	100
4.2	BIVARIATE CORRELATION ANALYSIS	101
4.3	MEASUREMENT MODEL RESULTS	102
4.4	NORMALITY OF LEVEL 1 RESIDUALS.....	105
4.5	HIERARCHICAL LINEAR MODELING RESULTS	107
4.5.1	Descriptive statistics results	108
4.5.2	The unconditional model.....	109
4.5.3	Main hierarchical linear modeling analysis	110
4.6	SUMMARY OF THE RESULTS	113

5 DISCUSSION	115
5.1 DISCUSSION OF THE RESULTS.....	115
5.2 IMPLICATIONS FOR PRACTICE, THEORY, AND RESEARCH.....	124
5.3 RECOMMENDATIONS FOR FURTHER STUDIES	127
REFERENCES.....	130
APPENDICES	
A. APPROVAL LETTER FROM MIDDLE EAST TECHNICAL UNIVERSITY HUMAN SUBJECTS ETHICS COMMITTEE.....	149
B. PERMISSION DOCUMENT FROM ADANA CITY DIRECTORATE OF NATIONAL EDUCATION FOR SEYHAN AND ÇUKUROVA DISTRICT	150
C. PERMISSION DOCUMENT FROM ADANA CITY DIRECTORATE OF NATIONAL EDUCATION FOR SARIÇAM DISTRICT	151
D. INFORMED CONSENT FORM.....	152
E. TURKISH SUMMARY / TÜRKÇE ÖZET	153
F. TEZ FOTOKOPISI İZİN FORMU.....	169

LIST OF TABLES

TABLES

Table 2.1 Differences between Coercive and Enabling Formalization.....	50
Table 2.2 Differences between Coercive and Enabling Centralization	52
Table 3.1 Numbers of the Selected Schools regarding their District and Schooling Levels	81
Table 3.2 Demographic Characteristics of the Teacher Participants	82
Table 3.3 Schools with Regard to Number of Student and Teacher Participants	84
Table 4.1 Bivariate Correlations of the Variables of the Study	102
Table 4.2 Skewness and Kurtosis Values for Level 1 Residuals	107
Table 4.3 Descriptive Statistics	109
Table 4.4 HLM Unconditional Model Results.....	110
Table 4.5 Proposed Variables as the Predictors of Variation in Student Achievement between Schools (with Robust Standard Errors)	112
Table 4.6 HLM Proposed Model Results: Variation between Schools in Student Achievement	113

LIST OF FIGURES

FIGURES

Figure 1.1. PISA 2012 results for student performance in math among OECD countries.	3
Figure 1.2. PISA 2012 results for student performance in reading among OECD countries.	4
Figure 1.3. PISA 2012 results for student performance in science among OECD countries.	4
Figure 2.1. Leadership practice from a distributed perspective	32
Figure 2.2. A typology of school bureaucracy	53
Figure 4.1. Measurement model diagram with latent correlations and standardized estimates.....	104
Figure 4.2. The histogram of level 1 residuals.....	105
Figure 4.3. The normal q-q plot of level 1 residuals.....	106

LIST OF ABBREVIATIONS

AMOS	Analysis of Moments Structures
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CI	Confidence Interval
HLM	Hierarchical Linear Modeling
M	Mean
MCAR	Missing Completely at Random
MLM	Multilevel Modeling
MVA	Missing Value Analysis
RMSEA	Root Mean Square of Error Approximation
SD	Standard Deviation
SES	Socio-Economic Status
SPSS	Statistical Package for the Social Sciences
TLI	Tucker-Lewis Index

CHAPTER I

INTRODUCTION

1.1 Background of the Study

Do schools really make a difference? This question has ignited one of the important discussions among the scholars of education. Especially after the seminal Coleman Report (1966) was published, the discussion on this question gathered a lot of attention. This attention, in turn, has led researchers and politicians, as well as many other people, to question the necessity of schools and whether the high amounts of budgets spared to these institutions are worth.

School effectiveness paradigm, as a stream of research, was born as a response to these discussions of whether schools make any difference (Teddlie & Reynolds, 2000). Accordingly, school effectiveness research (SER) has mainly focused on two questions: “What makes a ‘good’ school?” and “How do we make more schools ‘good’?” (Reynolds et al., 2014, p. 197). In other words, the central purposes of SER can be considered as investigating “what works” to ensure the effectiveness of schools in promoting student achievement and to study ways of making more schools successful in increasing student achievement and thus, contributing to the promise of equal educational opportunity. To answer these questions and achieve its goals, SER has investigated the relationship between various variables in educational context and academic or/and social school output variables (Creemers, Reynolds, Stringfield, & Teddlie, 2003; Teddlie & Reynolds, 2000).

This study can be accepted as one of the academic endeavors within the paradigm of SER. As such, it looked into the answers for “What makes a ‘good’ school?” and “How do we make more schools ‘good’?” (Reynolds et al., 2014, p. 197) in an educational

system that operates under unique political, economic and social context, the case of Turkey.

As mentioned above, SER has made use of various school outcome variables that can be conceptualized as academic and social output variables. Thus, in terms of outcome variables, there are various alternatives for assessing school success. However, as Lomos, Hofman, and Bosker (2011) and Sinden, Hoy, and Sweetland (2004) asserted, student achievement is an indispensable condition for school success. Thus, this study put importance on student achievement and investigated different school-level variables' impact on student achievement to see what can be done to contribute to the efforts of making education better in Turkish public schools.

However, the question of what can be done next for improving student achievement should start with a discussion of what the current situation is in education. To this end, it can be argued that Turkish education system has gone through lots of change interventions lately (Zayim, 2015); however, whether these changes played a role in the improvement of educational effectiveness is questionable. Many studies put forward that schools in Turkey are still not effective enough in promoting student achievement when compared to the countries it competes (e.g. Aktaş, 2011; Aydın, Sarier, & Uysal, 2014; Balım, Deniz, Evrekli, & Inel, 2010; Uzun, Bütünler, & Yiğit, 2010). To illustrate, according to the latest report published by Programme for International Student Achievement (PISA) organized by OECD, Turkey had the third lowest score in student mean math performance among OECD countries and only topped the countries of Chile and Mexico. Figure 1.1 below summarizes the mean math scores of all OECD countries.

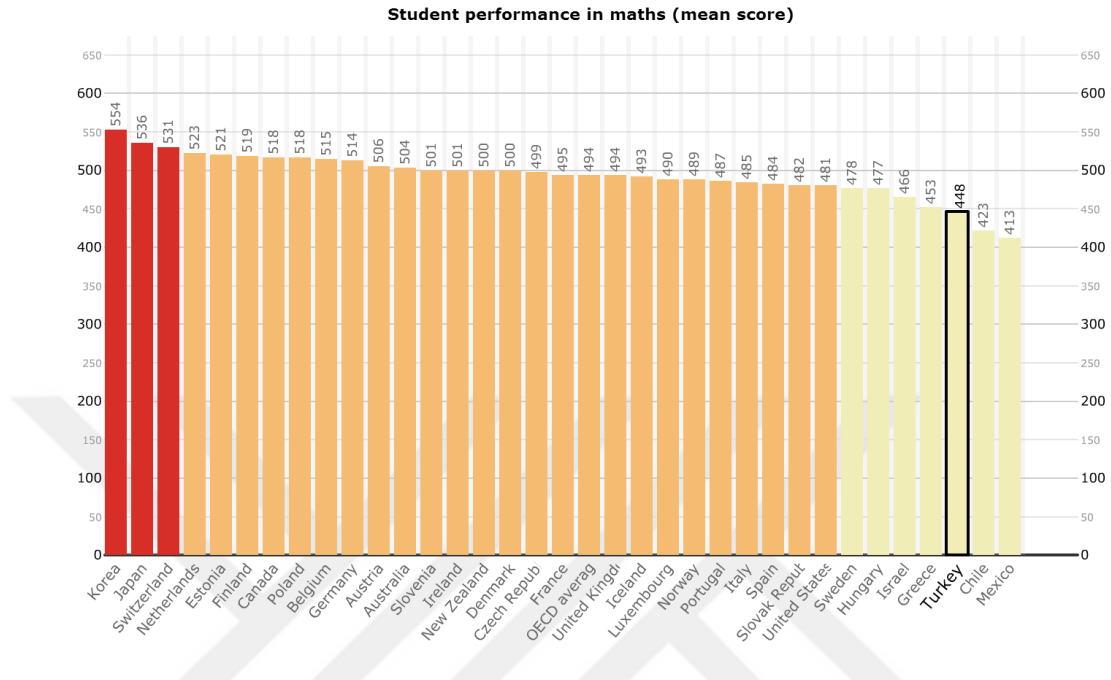


Figure 1.1. PISA 2012 results for student performance in math among OECD countries. (retrieved from OECD, 2012b)

Moreover, according to the same PISA 2012 report, Turkey is not doing better in reading and science scores either. Turkey had the fourth lowest score in student mean reading performance and third lowest score in student mean science performance among OECD countries. Figures 1.2 and 1.3 summarize mean reading and science scores of OECD countries, respectively.

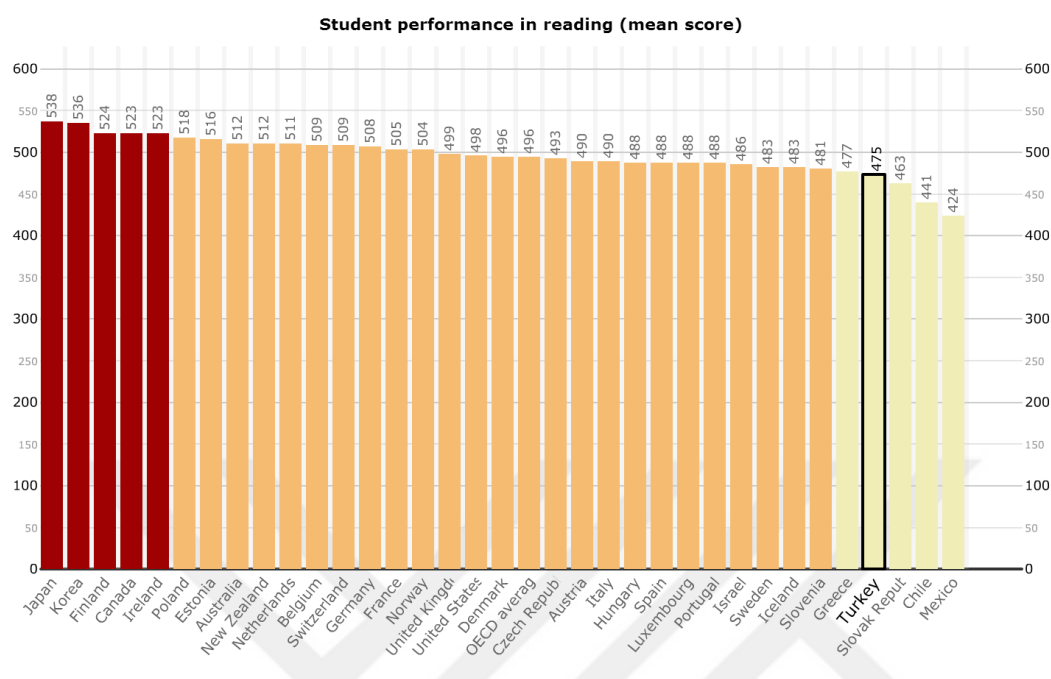


Figure 1.2. PISA 2012 results for student performance in reading among OECD countries (retrieved from OECD, 2012a).

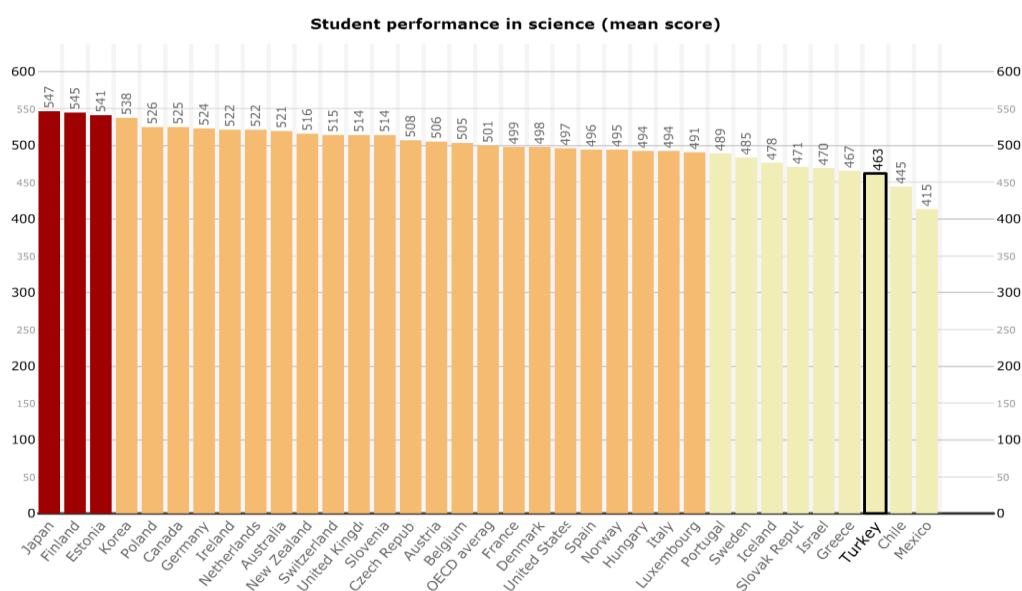


Figure 1.3. PISA 2012 results for student performance in science among OECD countries (retrieved from OECD, 2012a).

Moreover, this scene does not change when other international comparative studies are considered. For example, according to TIMSS 2011 International Results, both in mathematics and science achievement distributions, Turkey had a score that is significantly below the center point (Martin, Mullis, Foy, & Stanco, 2012; Mullis, Martin, Foy, & Arora, 2012)

In a nutshell, public schools in Turkey are not doing well in terms of ensuring student learning outcomes as it can be seen from the cited international comparative studies. To be able to compete with other countries in this globalizing world, education system in Turkey needs to do better. To this extent, the question of “what works” in improving the learning outcomes of the schools in Turkey gains even more importance. When the relevant literature is investigated for this issue, it can be argued that there are some directions for possible answers to this question.

To start with, leadership has been shown to be one of the things that “works” in contributing to student achievement. Actually, it has been found to be one of the most effective school-level factors in schools towards student achievement (Leithwood, Harris, & Hopkins, 2008; Leithwood, Louis, Anderson, & Wahlstrom, 2004; Sammons, Davis, Day, & Gu, 2014). Kaiser, Hogan, and Craig’s (2008) analysis of 10 meta-analyses on leadership also supported that leadership does play a role in organizations’ effectiveness.

On the other hand, although there is a good amount of literature supporting that leadership has significant effects on organizations, the questions as to what kind of leadership is more effective and how it shows its effect on student achievement are not resolved yet (Leithwood et al., 2004). Numerous sources lately, proposed that distributed forms of leadership could be the answer to these questions (Gronn, 2002; Spillane, 2006). This form of leadership is relatively a recent approach to leadership in educational organizations. It focuses more on the interactions between the members of the organizations than the direct goals. Distributed leadership can be accepted as a move away from one-heroic-man approaches to leadership (Harris & Spillane, 2008; Spillane, 2005).

Nevertheless, although distributed leadership has some amount of empirical support behind it for having a significant positive impact in schools outcomes (e.g. Heck & Hallinger, 2010; Leithwood et al., 2007), it is yet to be seen whether it is a fad or a long-lasting and effective theory (Harris & Spillane, 2008; Spillane, 2005).

Moreover, formal structures in schools could be another factor that “works” in promoting student achievement. In their article, Hoy and Sweetland (2001) asserted that schools are bureaucratic, formalized organizations that have their own chain of command, regulations, labor division. In the literature, there are both critics and proponents of bureaucracy in education. Critics of bureaucracy pointed out that overly reliance on rules and regulations may result in resistance to change and red tapes that slow down procedures (Lunenburg & Ornstein, 2011). Moreover, they also put forward that bureaucracy limits upward communication in organizations and thus, preventing those in the “upper positions” to get feedback from employees. Further, bureaucracy is criticized for not addressing the “humanly” sides of organizations.

On the other hand, there have been scholars who emphasized the other side of the coin. To illustrate, Michaels, Cron, Dubinsky and Joachimsthaler (1988) showed in their study that the higher the level of formalization the greater the organizational commitment and the less the work alienation. Moreover, Senatra (1980) asserted in his article that higher levels of formalization decreased the role ambiguity among the employees. Also, Moeller and Charters (1966) provided empirical evidence that teachers in highly bureaucratic schools, contrary to general belief, felt less alienated.

Based on these almost contradictory studies that show different parts of the picture of bureaucracy, Hoy and Sweetland (2001) conceptualized a new model that accounts for both views. To them, school structure could have a positive (enabling) bureaucracy or a negative (hindering) one. A phenomenon like formalization that affects all the teachers and any other employees in an educational organization is very likely to play a role in student achievement levels. Hoy and Sweetland (2001) themselves pointed out the possible influence of school structure on student achievement and underscored the need for more research on this relationship.

Furthermore, formal structure is not the only mechanism that coordinates the relationship among the teachers in a school. In fact, many studies put a finger on different conceptualizations of informal structures that may have an impact on organizations (e.g. Aslan, Özer, & Ağıroğlu Bakır, 2009; Balyer, 2013; Cohen & McCabe, 2009; Freiberg, 1999; Korkmaz, 2006; Özdemir, Sezgin, Şirin, Karip, & Erkan, 2010; Özdemir, 2012; Recepoğlu & Özdemir, 2013; Turan & Bektaş, 2013). Informal structures have been found to sooth down the bureaucratic rigidities , speed up the processes and help teachers exchange their ideas and experiences (Lunenburg & Ornstein, 2011).

Teacher collaboration can be accepted as an informal mechanism that takes place in schools. It has been shown to have positive outcomes for different aspects in schools such as more positive attitudes towards teaching and increased levels of trust; however, not much has been done to explore its predictive effects on student achievement (Y. L. Goddard, Goddard, & Tschannen-Moran, 2007). Based on the construct being associated with various positive aspects of schools, it could be another factor that “works” in contributing to student achievement.

Furthermore, so far distributed leadership, enabling school structure and teacher collaboration in schools and their potential effects on improved student achievement are dwelled on. Although these variables could play a role on student achievement individually, there could be a synergy between them, as well. Because of their nature they can be considered as complementary variables. The study conducted by Penuel et al (2010) supported this as the authors specifically looked for schools that had distributed leadership in their study to investigate the alignment between formal and informal aspects of schools.

Additionally, academic optimism has been found to be a school-level factor that “works” in improving student achievement (Hoy, 2012). It is a construct made up of three variables: collective efficacy, collective trust in parents and students, and academic emphasis. Although it is relatively a new construct in the literature, numerous studies have been conducted on the relationship between academic

optimism and student achievement (e.g. Bevel & Mitchell, 2012; Boonen, Pinxten, Van Damme, & Onghena, 2014; Chang, 2011; Hoy, Tarter, & Hoy, 2006; Malloy, 2012; McGuigan & Hoy, 2006; Moghari, Lavasani, Bagherian, & Afshari, 2011; Smith & Hoy, 2007; Tschannen-Moran, Bankole, Mitchell, & Moore, 2013; Wu, Hoy, & Tarter, 2013). One of the reasons why academic optimism is this popular may be because of the consistent results on the construct's impact on school outcome variables. Hoy (2012) asserted that academic optimism is effective on student achievement even after accounting for student SES.

Briefly, Turkish public education is suffering from low levels of student learning outcomes. This becomes even more evident when the international comparative reports are taken into account. At this point, the question of “what works” in contributing to student achievement for the schools in Turkey becomes all the more important. Based on the stream of studies provided, the literature on the issue directs attention to four school-level factors that may play a significant role in improving student achievement levels in Turkey: distributed leadership, formal structure, teacher collaboration, and academic optimism.

1.2 Purpose of the Study

Based on this discussion, the main purpose of this study was to investigate the relationship between distributed leadership, formal and informal structures, academic optimism and across-school differences in student achievement in Turkish public schools. Student achievement, being the outcome variable and the others being predictor variables, this study proposes a model that aimed to explain the variation in student achievement between schools. Thus, the major and minor research questions of the study are provided below:

1. Which school level variables (i.e., distributed leadership, enabling school structure, teacher collaboration, academic optimism) are associated with student achievement differences between Turkish public schools?
 - a. What is the relationship between distributed leadership and differences in student achievement between Turkish public schools?

- b. What is the relationship between the dimensions of enabling school structure (i.e., enabling school structure, hindering school structure) and differences in student achievement between Turkish public schools?
- c. What is the relationship between teacher collaboration and differences in student achievement between Turkish public schools?
- d. What is the relationship between the dimensions of academic optimism (i.e., academic emphasis, collective efficacy, faculty trust in clients) and differences in student achievement between Turkish public schools?

1.3 Significance of the Study

This study put forward a school effectiveness model that tested the relationship between differences in student achievement among Turkish public schools and key school-level variables that were specifically chosen accordingly with the literature. Thus, this study can be accepted as a significant contribution to the literature according to Creemers and Kyriakides' (Creemers & Kyriakides, 2006, 2012) assertion that empirically tested educational effectiveness models that focus on student achievement are rare in the literature. Moreover, Lomos, Hofman, and Bosker (2011) and Sinden, Hoy, and Sweetland (2004) asserted that student achievement is the *sine qua non* of schools and that any study focusing on developing better conditions for improved student achievement with a rigorous methodology is a significant research.

One of the variables investigated in this study was distributed leadership. Distributed perspective on leadership was specifically selected for this study since most of the studies in the current literature of school effectiveness equated leadership to principals only (Robinson, 2008; Robinson, Lloyd, & Rowe, 2008). On the other hand, while principals play an important role in the leadership mechanism of schools, they are not the only actors. In fact, distributed leadership has been shown to be more useful in understanding the mechanisms taking place in educational organizations. (Spillane, 2006). Thus, although it can be argued that there is a moving away towards a distributed approach to leadership; one-man, heroic approaches to leadership still maintain their existence in the literature (Harris & Spillane, 2008; Spillane, 2005).

Consequently, the empirical data on the distributed leadership within more and less successful schools are still scarce (Robinson et al., 2008; Timperley, 2005) and whether it is a short-time trend or a long-term, reliable theory is yet to be seen (Harris & Spillane, 2008; Spillane, 2005). Also, when looked at the literature, it appears that more research that investigates the connections of student achievement and school leadership is necessary. In their meta-analysis, Witziers, Bosker, and Krüger (2003) concluded that the studies investigating the relationship between leadership and student achievement in the last two decades posed more questions rather than explaining the already existing ones.

Another relationship that was investigated in this study is the one between informal structure, conceptualized as teacher collaboration, and student achievement. Studies that investigated various conceptualizations of informal structure and student achievement suggest that more research is necessary in this area (Freiberg, 1999; Moolenaar, 2012; Sherblom, 2006; Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013). Further, distributed perspective puts forward that situation is a very important aspect of leadership and in his book, Spillane (2006) puts forward that informal structures, as well as formal structures are of great importance for the situation in which leadership operates. Thus, it can be argued that this is another reason why it is worth investigating these variables' joint relationship with student achievement.

Moreover, although teacher collaboration has been associated with positive notions in educational organizations (Y. L. Goddard et al., 2007), there has not been a well-established link between teacher collaboration and student achievement in the literature (Marks & Louis, 1997). Balci's (2014) assertion that informal structures have not been studied adequately in the school effectiveness field might be one of the reasons for this. Also, Evans-Stout put forward that of the few studies conducted in the subject matter, most of them suffered from weak research designs (as cited in Y. L. Goddard et al., 2007). Further, Lomos, Hofman and Bosker (2011) asserted in their meta-analysis that more empirical studies, especially multilevel studies need to be conducted to understand the teacher and school level properties of this topic. Therefore, this study is expected to significantly contribute to the discussion by

empirically exploring the association between teacher collaboration and student achievement through a multilevel methodology.

Furthermore, there is a formal structure in schools along with informal structures and they both play a role in shaping schools' effectiveness (Freiberg, 1999). However, when looked at the literature, although there are studies taking different conceptualizations of informal part and student outcomes into consideration (e.g. Balyer, 2013; Korkmaz, 2006; Moolenaar, 2012; Özdemir et al., 2010; Sherblom, 2006) and studies taking enabling bureaucracy and student outcomes into consideration (e.g. McGuigan & Hoy, 2006; Wu, Hoy, & Tarter, 2013), there are very few studies that consider the impact of both informal and formal structures on student achievement at the same time. Moreover, Hoy and Sweetland (2001) suggested in their article that more research that explore the relationship between student achievement and the bureaucratic structure of schools is necessary. To them, schools could be more effective in promoting student achievement if their bureaucratic structures are enabling ones. Thus, this study is expected to make a significant contribution to the literature by investigating the relationship of both formal and informal structures with the differences in student achievement between schools at the same time.

Also, a study this inclusive is hard to come across in the literature. As it can be understood from the discussion above, this study incorporates several key features that schools possess. The key features of schools included in this study include a leadership variable conceptualized as distributed leadership, teacher collaboration as a variable reflecting the informal structure of schools, a variable to reflect the formal structure of schools conceptualized as enabling school structure, and academic emphasis as a variable reflecting on the climate of schools. A study that examines all these variables' impact on student achievement simultaneously can provide a holistic view towards school effectiveness. It may depict which variables yield being insignificant when examined together even when they may seem to have significant results when analyzed separately.

Moreover, most of the studies in the literature do not take the nested data structure of educational settings into consideration. This leads their analyses to have limited results (Raudenbush & Bryk, 2002; Teddlie & Stringfield, 1993; Xin, Xu, & Tatsuoka, 2004). On the contrary, this study did acknowledge the nested data structure, or in some cases called as hierarchical or multilevel data structure, of educational contexts. The present study nested student data to schools. Thus, the present study eliminated possible issues such as aggregation bias and undetected heterogeneity of regression if multilevel model had not been used and provided empirical results that are in line with the nature of the data (Raudenbush & Bryk, 2002). Also, by utilizing a multilevel analysis technique, the current study showed compliances with a new school-effectiveness theory that emphasizes accounting for the multilevel nature of educational organizations (Creemers & Kyriakides, 2006).

Further, the existing literature tends to cover studies conducted in schools systems with decentralized structures. Limited research on school effectiveness was conducted in schools systems operating under unique political, social and economic systems, like the case of Turkey (Kondakci & Sivri, 2014). Thus, this study is expected to provide significant implications for both research and theory in terms of the applicability of the concepts that are originally developed in decentralized schools systems to centralized ones such as the case of Turkey.

In terms of practice, this study is significant, too, as it had implications for both middle level managers at schools and for the policy makers at national level. For the practitioners in the school, the study offers an empirically tested model that explains the relationship between school-level variables and differences in student achievement across schools. Looking at the implications of this study, leaders in schools can have some ideas on improving the learning outcomes in their school.

Moreover, policy makers can make use of the study results to improve student outcomes. It is discussed above that Turkey can do a lot better in promoting student achievement when compared to other countries when the reports such as PISA 2012 and TIMSS 2011 are considered. However, this potential is not fulfilled. On the other

hand, since the results of the study had important implications for the purpose of improving student achievement; the policy makers can take the empirical results into consideration and use them in their policies for improving educational outcomes at the national level.

1.4 Definition of Terms

Definitions for the variables of the study are provided below.

Distributed leadership was defined as “a social distribution where the leadership function is stretched over the work of a number of individuals and task is accomplished through the interaction of multiple leaders” (Spillane, Halverson, & Diamond, 2001, p. 20).

Informal structure: Teacher collaboration was defined as a concept that is primarily concerned with behaviors and practices that are realized through collaboration (Harris & Muijs, 2005).

Formal structure: Enabling school structure was defined as a type of bureaucratic structure that has enabling formalization and enabling centralization. On the other hand, *hindering school structure*, being the opposite of the above-mentioned concept, was defined as a bureaucratic structure that has hindering formalization and hindering centralization (Hoy & Sweetland, 2001).

Academic optimism was defined as a set of school faculty held beliefs including that faculty members as a whole trust students and parents (*collective trust in clients*), believe that they can teach every student (*collective efficacy*), and put importance on academic learning of students (*academic emphasis*) (Hoy, Tarter, et al., 2006a).

Student achievement: Grade-point average values: It is the individual score that students accumulate throughout the semester from all the courses they were taught in their schools. GPA scores range from 0 to 100 and calculated in such a way that courses with most hours in the weekly program impact the weighted score most while the courses with the least hours impact the least. GPA was specifically chosen as the

effectiveness indicator variable to avoid one-time observation values and to ensure multidimensionality of output data since they include different skills such as arts, music and sports classes along with mathematics and language skills (Maag Merki, Emmerich, & Holmeier, 2015; Reynolds et al., 2014).



CHAPTER II

LITERATURE REVIEW

Student achievement can be accepted as the *sine qua non* of schools, yet empirical models that focus on student achievement are not adequately studied in the literature (Creemers & Kyriakides, 2006). This section of the thesis provides both empirical and theoretical literature for the components of the effectiveness model proposed by this study. The literature starts with providing background information and a discussion on school effectiveness paradigm. Then, a discussion is provided for the relationship between the general notion of leadership and student achievement with a subheading that narrows the discussion down to distributed leadership. Subsequently, the concept of teacher collaboration, a variable to measure the informal structure of schools, and its possible effect on student achievement is dwelled on. Moreover, the formal structure of schools, which was conceptualized as enabling school structure, is described in detail and its potential relationship with learning outcomes, as well as other organizational outcomes are presented. After that, a detailed information and literature on academic optimism and its three components; namely, academic emphasis, trust in parents and students, and collective efficacy is presented. Lastly, a summary of the literature review is provided at the end of the section.

2.1 School Effectiveness Research

In its core, school effectiveness research (SER) has two fundamental questions: “What makes a ‘good’ school? How do we make more schools ‘good’?” (Reynolds et al., 2014, p. 197) It can be argued that SER explores different variables in educational contexts and looks at their effect on learning outcomes which may be academic output variables or various social output variables. This means that the field comprises various factors such as leadership, formal and informal structures, climate, curriculum

or the differential levels in educational contexts such as districts and schools (Creemers et al., 2003; Reynolds, 2010; Teddlie & Reynolds, 2000).

Moreover, in their editorial article for the special issue for further development of educational effectiveness theory in a multilevel context, Maag Merki, Emmerich, and Holmeier (2015) put forward six features that may be accepted as important aspects of educational effectiveness research. One of the features was multilevel structure of educational effectiveness. The educational effectiveness theory puts forward that the student success in learning can be explored best by incorporating the hierarchical structures they are naturally in. Examples for these hierarchical structures include students nested to schools, schools nested to districts or students that are nested to classrooms that are, in turn, nested to schools. Another core feature of school effectiveness theory is having a dynamic perspective. Dynamic perspective puts forward that there is an interdependency between system, school, classroom and individual levels of variables. This complexity necessitates action taken in the schools is an adaptive behavior for taking the differing needs, opportunities into consideration. Moreover, effectiveness theory asserts that linear and non-linear/direct and indirect effects should be considered to understand the how student achievement can be promoted in a better way. Simple input-process-output models would not be appropriate for the complex structure of educational settings. Differential effects is another feature of effectiveness theory. It basically proposes that educational effectiveness theory should include differential effects between schools such as differences in subjects between schools. Moreover, longitudinal perspective maintains that effectiveness efforts is not static phenomenon and it can change over time. Further, according to the authors, multidimensional output criteria is another feature of educational effectiveness theory which states that student achievement should not be measured with one type of measure such as using math scores only.

Further, the terms school effectiveness and school improvement have been mostly used together and this may lead to confusions between the two terms since they have different meanings (Creemers & Reezigt, 2005). While school effectiveness has its focus on what works and why in terms of contributing to student outcomes, school

improvement has a focus that is more shifted towards development of educational outcomes and problem-solving (Creemers & Kyriakides, 2012). Nevertheless, both have linkages between them. For example, the findings of SER can be used to provide direction for school improvement endeavors; school improvement paradigm, in turn, can be used to test the research and knowledge base of school effectiveness and the knowledge base that is tested by school improvement can provide clues for furthering SER (Balci, 2014; Creemers & Reezigt, 2005). When these similarities and differences are considered, this study provides more of a school effectiveness model than a school improvement model but, as it is discussed above, is very relevant to school improvement studies.

To understand a field better, its historical development and the motives of the pioneering researchers who studied it first would provide an important insight. Thus, the next subheading below provides a brief history of SER that intends to summarize the important developments in the field rather than being exhaustive.

2.1.1 Brief history of school effectiveness research

SER has gone through various phases. It can be accepted that the field was “born” as a response to the claims of people such as Coleman (1966) that schools do not make a difference. According to Coleman (1966), schools have no significant effect on student achievement when the socio-economic backgrounds of the students are taken into consideration. To put it differently, students with high socio-economic background enjoy higher grades and social status and students with low socio-economic background maintain their low status and lower achievement levels.

On the other hand, some of the empirical studies later on were able to show that “schools-do-not-make-a-difference” approach is not altogether true. These studies include, for example, Edmonds(1979) and Brookover, Beady, Flood, Schweitzer, and Wisenbaker (1979) in the United States and Rutter, Maughan, Mortimore, Ouston, and Smith (1979) in England (as cited in Maag Merki et al., 2015). These studies found similar correlates for the effectiveness of schools. They are generally accepted as the pioneering studies of SER.

Furthermore, SER started to thrive in 1980s (Luyten, Visscher, & Witziers, 2005). This period can be accepted as the second phase of SER according to Reynolds and his colleagues (2014). A distinctive feature of this period was the advances in the methodologies used in SER. For instance, multilevel methodologies were started to be used in this phase. Also, these advancements in methodology helped researchers better understand the stability of school effects over time, consistency of various output variables, the size of these effects and their long-term influence.

In the next phase of effectiveness research, scholars started to look for the reasons behind the different results obtained from different schools. Thus, it can be said that there was a move away from “input-output” models towards “input-process-output” models in the field (Teddle & Reynolds, 2000). Teddle and Stringfield’s (1993) Louisiana School Effectiveness Studies were one of the influential studies in this phase.

Subsequently, a fourth phase begun in the field of SER. It is still evident today. The internationalization of the field had an impact on the scholar work. Call for the mergers between school improvement and school effectiveness interests gave its fruits. Effectiveness researchers became more acquainted with school improvement’s qualitative methodologies, emphasis towards cultural views and processes in schools rather than only focusing on formal issues, and emphasis in seeing teachers as more than mere “rational” educators (Reynolds et al., 2014).

2.1.2 Different approaches to school effectiveness

While an exhaustive review of the literature is not intended, different approaches to SER is provided and discussed under this section.

Scholars in the field of SER employed different perspectives in their research. To start with, scholars of SER looked different levels of education to assess the influence of factors on educational outcomes. Most of the studies in SER investigated effectiveness in school level. That is, they looked for the factors at the level of schools and their influence on various outcome variables. The seminal work of Edmonds (1979), for

instance, looked at school effects on student achievement with a purpose of challenging Coleman's (1966) argument. As a result of his study, Edmonds (1979) put forward 5 correlates of student achievement in schools that are effective regardless of SES. These correlates were a strong administrative leadership, an expectation that every student has to attain a minimum acceptable level, an orderly school atmosphere that is conducive of student learning, a focus on basic skill acquisitions, and a monitoring of student progress. The studies of Walker, Lee, and Bryant (2014), Bastian and Henry (2015) and Goddard, Goddard and Tschannen-Moran (2007) can also be given as studies that looked at school level factors for student achievement.

Moreover, classroom was another level investigated by SER scholars to reveal effective classroom practices contributing to student outcomes. Studies that looked into the effective classroom practices also tried to answer the question of "what works?" but in a different level. For instance, Wray and Medwell (2001) looked for the characteristics of teachers who were found to be effective in teaching literacy to elementary school students. The results of their study suggested that effective teachers emphasized pupils' knowledge on the purposes and functions of writing and reading, they were more diagnostic in the means they examined and evaluated samples of reading and writing did by children. Also, effective teachers were found to emphasize the wider perspective of their teaching and expressed how the specific walks of reading and writing positively affected communication.

Further, organizations beyond school or classroom level such as district or local authority is relatively new focus in the SER (Reynolds et al., 2014). These studies investigated districts or local authorities and whether they had an effect on student learning outcomes. To illustrate, Land (2002) looked at local school boards and their influence over student achievement. In her study, Land reviewed two decades of study on the school board authorities and student achievement and found out that the research connecting these variables were extremely limited. She put forward that effective school boards focused on student output variables and policy instead of administration; had good relationship with superintendent, local government and

community agencies; participated in evaluation; effectively practiced budgeting and engaged in training.

SER studies that incorporate organizations beyond schools such as district management, or in Turkish context district directorates of national education (ilçe milli eğitim müdürlükleri), could result in significant insights about how learning outcomes are affected in Turkey, a country that has a very centralized education system. Although this present study was conducted with a belief that effectiveness of schools cannot be ascribed to whether an educational system is centralized or not and that teachers, and school leaders can make a difference if they want to, as suggested by Creemers & Kyriakides (2012), according to the literature, in centralized education systems such as Turkey's, it is possible to come across principals and teachers who think that it is not their duty to improve student outcomes in their schools and that they may expect the central authority to do a reform and improve student outcomes in their schools. To this end, it can be said that more SER research that go beyond school level is necessary.

Furthermore, in his book, Reynolds (2010) compared classroom, school and district/local authority levels of effectiveness studies that are dwelled on above. He asserted that classroom or teacher level is more powerful in influencing student achievement than school level. School level is, in turn, more effective in contributing to student achievement than local authority or district level. It can be argued that this assertion is consistent with the findings in the literature that leadership, a school level factor, is second only to classroom teaching in contributing to learning outcomes (Leithwood et al., 2008, 2004; Sammons et al., 2014).

As a side note, the emergence of studying the effects of these different levels in SER studies is a reason why some scholars (e.g. Reynolds et al., 2014) has chosen not to use the term school effectiveness research and used the term educational effectiveness research instead. This is understandable as the field encompasses a lot more than effective schools today. On the other hand, present study continued to use the term

school effectiveness research. And it can be argued that the model proposed itself being a school level model contributed to this decision, as well.

Moreover, studying ineffectiveness factors along with effectiveness factors could be another important perspective difference. Most studies in the SER literature studied “what works?” for the student achievement in different levels of educational contexts. However, studying what is counteractive in contributing to student achievement could play an important role in making education better. This can be compared to clinical studies that study the causes of illness first so that they can produce “effective” cures for the problem (Reynolds, 2010; Reynolds et al., 2014).

Hochbein, (2011), to exemplify, did a study on operational definition of declining schools. The author argued in his article that researchers, politicians and educators spend a lot of time for low-achieving schools by trying to formulate strategies to improve them or to simply admonish them for not being able to provide the minimum standards, very few actually focuses on what leads these schools to fail. Thus, to study the “understudied” worked on providing definitions for declining schools and offered a framework with four operational definitions for declining schools with the purpose of allowing stakeholders of interest to possibly prevent and change the direction of failing schools.

Furthermore, as it is provided in the brief history above, more international studies started to come out from the field of SER. Doing an international study and comparing educational contexts between countries rather than, for instance, comparing schools within a country or a city is a different challenge. However, it is a necessary one as researchers can gain more insights about school effectiveness and may have a chance to observe the possible different understandings of it in different cultures. Also, as it was mentioned before, equity and quality in education can be considered as the core values of SER (Reynolds et al., 2014). Thus, international studies in SER are also important in embracing these core values so that scholars can work on and contribute to equity and quality of education around the globe.

A good example for international studies of SER can be Creemers, Reynolds, Stringfield, and Teddlies' (2003) study. The authors reported their study in their book titled as *World Class Schools: International perspectives on school effectiveness*. In their study, the authors explored “what works” to improve children learning outcomes and the reason why some of the effectiveness factors possibly work in certain cultures and not others. Authors conducted their study in 9 countries; namely, US, Canada, Hong Kong, Ireland, the Netherlands, Norway, Australia, the UK, and Taiwan. The authors conclude their study with several findings. First, research validated internationally that schools with lower socio economic status get lower initial math scores than schools middle-class students. Second, the more the students spend time in their schools, the weaker the connection between their success and their familial ethnic, socio-economic and educational backgrounds. Moreover, the authors observed a difference in countries about the variability of success with Anglo-Saxon societies having larger within and between schools variations in student achievement. Further, the authors pointed out that the background effects influenced student achievement the least in the two Pacific Rim countries: Hong Kong and Taiwan. Also, it was found out that effective teacher behaviors such as high expectations, questioning, clarity, commitment to academic success and lesson structuring do explain the variability of student achievement and they showed similar effective results for the countries investigated. Further, Creemers and his colleagues (2003) argued based on the study results that many of the school effectiveness concepts that have been found out to be “working” by school effectiveness research and practice do in fact travel between cultures internationally. Effectiveness factors such as principal quality, school expectations from students, and the extent to which school climate is conducive of quality classroom experience were found to be international factors that explained why some schools were more effective than others.

Internationalization of educational expectations and policies because of international studies such as PISA, TIMSS or PIRLS may have different implications, too, and these implications may not always be positive. Around the globe, an atmosphere in which educational reform is demanded and in which schools felt pressured to do more in

contributing to their educational effectiveness has been created because of economic, social and political reasons. This force across many countries, in turn, has led to a placement of very tight goals for schools to do more so as to achieve for the systemic change. This has shown its effects on the studies conducted in school effectiveness and school improvement area, as well. (Harris & Muijs, 2005). On the other hand, despite these global trends, this present study did not intend to propose a school effectiveness model to improve the effectiveness of schools under accountability pressures. In agreement with what Creemers and Kyriakides (2012) asserted in their book, this study rather intended to emphasize providing an educational effectiveness model for schools with different educational needs so that they may improve their achievement results themselves. And so that this may, in turn, play a role in providing a better and more egalitarian education for students.

Additionally, there have been numerous criticisms towards the field of SER. To provide a holistic discussion of the field, some of the criticisms and counterpoints for these criticisms should be provided. To start with, Thrupp (2001) provided what himself put as a “school-effectiveness centered” criticism to what he sees as the problematic sides of the area with a contention that the scholars in the area were reluctant or slow to the criticism coming from “outside” of the field. To him, a critique coming from “inside” the field would help field respond quicker. The author argued that SER has three main problematic areas. The first criticism he put forward was the over claiming of SER. To him, SER relies on false givens such as student background, school composition, and curriculum. Thrupp (2001) argued student background is not a given, it is socially constructed and that the lack of questioning the inherent reasons such as policies or underlying social inequality that triggers this problem leads school effectiveness researchers to overemphasize school effects. Further, Thrupp (2001) asserted that effectiveness scholars perceive student composition as none of their business; they incorporate it to their analysis and leave it as it is which leads to the naturalization of the phenomena. Additionally, he criticized the school effectiveness researchers for neglecting curriculum as they only look at whether whatever being taught is taught efficiently or not. Moreover, the author put forward that SER is an

undertheorized field. One of the reasons put by the author for this was tendency of the researchers toward large scale “scientific” methodology employed rather than micro-level detailed studies which is more suitable for theory building. Lastly, the author put forward the inability of SER scholars to control the political use of their findings. Because of this inability, the author commented, policies worsening educational outcomes such as the inequality problem etc. come into existence. The author concluded his article by noting that some of the scholars in the field are attempting to respond these criticisms and prioritize these attempts for the as their agenda for future research.

At the same issue with Thrupp’s (2001) article was published, Teddlie and Reynolds (2001) wrote an extensive article that comprised responses to the criticisms directed towards SER. In their article, the authors, put forward that the criticisms SER receives can be considered as political, methodological and theoretical. The authors listed 14 criticisms from the literature and provided counterpoints for each. Although all of the counterpoints cannot be listed here, some of the points made in the article are dwelled on. Teddlie and Reynolds (2001) put forward that most of the criticisms are a result of skewed or simplistic views of SER field. For the criticism that SER scholars are homogeneous and that they use positivistic approaches only, the authors put forward with examples of publications showing that the field does not have a single point of view and that it comprises a wide variety of scholarly works. Moreover, for the claim that SER scholars ignore social class and its effect on student achievement, the authors listed examples of studies that did what the critics asserted was ignored. Further, the authors put forward that SER academics regard that schools have an effect beyond socio-economic status and that educators/researchers should focus on making effort to improve what they “can” in their classrooms or schools rather than pessimistically contemplating on the social class and student achievement relationship. The authors further asserted that there are scholars with varying orientations in SER and this includes the scholars with pragmatist orientation as the field is not homogeneous. Besides, the authors maintained that pragmatism is not less of a valid paradigm than the orientation of the critics of SER. Additionally, the authors concluded their article

by noting that these issues, especially the political ones, are unlikely to be resolved since the critics and the authors have essentially different world views.

Another article by Scheerens, Bosker and Creemers, (2001) adopts more of a middle ground in the critical discussions on school effectiveness research by acknowledging the valid problems that the field has and suggesting a self-criticism for the SER scholars. The authors (2001) maintained a similar position to Teddlie and Reynolds stance (2001) towards the criticisms that SER neglects SES, that SER lacks theoretical basis or that SER employs organizational theories only. On the other hand, they criticized the field for being slow in responding to the developments in the field of education such as the emergence and use of new ICT in schools, constructivism, and governance alterations (accountability, and decentralization). In their conclusion part, the authors asserted that it is worth to keep SER alive, despite valid criticisms.

In this section, a brief literature was provided to answer what SER is, to summarize main developments in its history and to discuss different perspectives in SER paradigm. As this study itself offered a school effectiveness model, this review of literature continues with providing relevant theoretical and empirical information on the variables that make up the educational effectiveness model put forward by this study.

2.2 Leadership and Student Achievement

Effective leadership in education carries a weight on student achievement. There is neither a novelty nor a debate in that statement when the literature is considered. On the other hand, even after years of research and numerous reform endeavors, there is still no consensus on the answers to the following three questions in the literature: how important leadership on student achievement is, how leadership counts and what fundamental features it holds (Leithwood et al., 2004). Some of the evidence in the literature showed that leadership was second only to classroom effects in its influence on student achievement when compared to other school-level factors (Leithwood et al., 2008, 2004; Sammons et al., 2014). This provides some clue on how significant leadership on student achievement is.

Moreover, another study by Walker, Lee, and Bryants (2014) provided answers for the first question provided in the paragraph above. The authors investigated to what extent principals made a difference in student performance between schools. In their study (2014), the authors focused on the between school impacts on school performance of the three following leadership traits: utilization of communication structures, the combined variable of quality assurance, accountability and resource management, and teaching and learning. To analyze the survey data collected from 42 schools, the authors utilized two analytical techniques. First, to find out the most significant leadership practices the authors made use of classification and regression tree analysis. After the elimination process, the authors conducted hierarchical linear modeling. The results of the analysis yielded interesting results for the relationship between school leadership and student achievement. According to the results, the utilization of transparent communication structures had a significant impact on the between school variation of school performance in the mandated standard test scores. On the other hand, the leadership traits of quality assurance, accountability and resource management, and teaching and learning had a significant negative relationship with school performance. Lastly, teaching and learning had insignificant positive effect on school performance. As authors, themselves, reported in their article, the negative relationship between quality assurance, accountability and resource management and student achievement was unexpected. The authors put forward that this unexpected finding is maybe a result of the different cultural structure of Hong Kong. Also, the facts that the school staff that filled the surveys in were chosen by the principals of those schools and that the average value of the mandated standard test scores of the students in the sampled schools were higher than the estimated average of population value are worth considering while interpreting the results.

For the second question that how leadership affects student achievement, it can be argued that there is an extended discussion in the literature. One discussion on the issue can be accepted as whether leadership impacts student achievement directly or indirectly. While some studies found a significant direct influence of leadership on student achievement (e.g. Leithwood & Jantzi, 2000), there are numerous other studies

that claimed that there was no direct effect of leadership on student achievement (e.g. Barker, 2007; Hallinger & Heck, 1998). Hallinger and Heck (1998) further proposed that very sophisticated analysis methods are necessary to identify the usually small and indirect relationship of school leadership and student achievement.

In their article, Hallinger and Heck (1998) reviewed school effectiveness studies conducted between the years of 1980-1995. After searching the literature, the authors found 40 studies that quantitatively investigated the relationship between school leadership and student achievement. They categorized all the studies in their review according to the models they used for the relationship between the aforementioned variables and they ended up with three models. The first one was direct-effects model. In this model, the main assumption is that leadership and student achievement are directly related and no mediating variables between the two are included in analysis. The second was mediated-effects model. Studies that made use of this model utilized mediating variables such as school culture, social interaction to analyze the relationship between school leadership and student achievement. The last model was reciprocal-effects model. This model refuses the classical approach that the influence is something that comes from leaders and affects the organization; rather, it proposes that leadership is also influenced by the organization they are part of. Thus, any effect included in this model is reciprocal in nature. The authors concluded that studies with direct-effect model did not provide consistent results about the relationship between leadership and student achievement, and a good number of the studies utilizing this model resulted in an insignificant relationship between leadership and student achievement. Moreover, they asserted that the studies with indirect-effects model indicated consistent and significant relationship between leadership and student achievement. Lastly, the authors pointed out that they could not find many studies with reciprocal model due to methodological limitations; however, the ones they could locate in the literature showed promising results for future. From these findings, the authors concluded that the relationship between leadership and student achievement is indirect and small but significant and meaningful.

Another study conducted by De Maeyer, Rymenans, Van Petegem, van den Bergh, and Rijlaarsdam (2007) contributed to the methodology discussion of Hallinger and Heck (1998). The authors put forward more of a “three-dimensional view” on the effects of leadership on student achievement. To emphasize how the selection of model can affect student achievement, they demonstrated 4 different analysis models of the same data. The authors re-used the data collected in a previous study done by De Maeyer, S., Rymenans, R., Daems, Fr., Van Petegem, P., and Van den Bergh, H. in 2003. Before moving on to the 4 model conceptualizations, the variables used in the article needs to be clarified. The authors used integrated leadership model to measure the leadership of the school. Integrated leadership was a combination of what was asserted to be the two prominent leadership styles in the discussion of educational leadership by Hallinger (2003): “transformational leadership” and “instructional leadership.” Marks and Printy developed this conceptualization based on their case study in American primary and secondary education (as cited in De Maeyer et al., 2007). As the output measures, the authors used mathematics and reading scores that were obtained from functional proficiency tests that had been implemented in the specified study that was conducted before by De Maeyer et al. in 2003. As the intermediate variable, the authors made use of academic climate variable which basically denoted how academically oriented a school is. Finally, as the background variables, the study utilized gender, IQ -measured by nonverbal PSB test-, socio-economic status –measured by five indicators: educational attainments and position on the labor market of both father and mother, and father’s unemployment history-, linguistic and ethnic background –measured by three indicators: the language spoken at home, father’s nationality, and mother’s nationality-, and grade –either fourth or sixth grade. Variables being defined, the four model used in the article were as follows: direct effects model, indirect effects model, direct and indirect effects model and antecedents model. According to the results, each model showed different results. First model showed no significant direct relationship between integrated leadership and mathematics and reading achievement results. For this model, only academic climate and reading achievement had positive relationships. For the indirect effects model, only integrated leadership and academic climate was shown to be related positively.

For the indirect and direct effects model, there was an indirect effect of leadership and reading achievement through academic climate and no other significant relationship. Lastly, for the antecedents effect model, again there was an indirect effect between leadership and reading achievement through academic climate and no other significant relationship. The authors concluded based on these findings that the relationship between leadership and student achievement in schools can vary according to the model chosen by the investigation and the correct choice of model is very important to obtain healthy results. As a side note, the authors did not indicate a preference for any model tested and acknowledge that their aim was not to show the best model that is appropriate for every study.

Moreover, Barker (2007), did a case study on a very successful school of England, the Shire School. The school is located in the south of England and reported as an extremely effective school by the country's institution, Office for Standards in Education. Barker conducted interviews with 17 people from various positions of the school ranging from the administration, department heads and to teachers. Interviews included questions about leadership related issues such as commitment to vision, challenging goals, delegating responsibility, and a collaborative culture. The answers the author reported in his article (Barker, 2007) supported the notion that their school is an effective one and that the leader, Sara Thomson, is promoting positive organizational features such as a collaborative culture, clear mission, and dispersion of responsibility etc. However, the researcher reported that there was no clear evidence of leadership having an impact on student achievement. The author concluded his article by putting forward that once background variables of the students were included the results of his study would support those studies that found indirect and small relationship between leadership and student achievement.

Moreover, Seashore, Dretzke and Wahlstrom (2010) looked at the answers for two questions. The first being whether the variables shared leadership, instructional leadership and building relationships based on trust have an impact on classroom practices and teachers to teacher work relations. The other question was if the behaviors of school leaders have a positive effect on student achievement. The findings

of the path analysis results suggested that instructional leadership had have a significant effect on professional community but contrary to researchers assumptions it did not have a significant impact on instruction. Further, shared leadership was found to have an indirect effect on instruction through professional community. On the other hand, trust did not have a significant influence over professional community. Level of schooling had a significant effect on both student achievement and professional achievement but its effect on focused instruction was limited. And lastly, professional community was shown to have a significant indirect impact over student achievement through its strong relationship with focused interaction. Based on these findings of Seashore, Dretzke and Wahlstroms' (2010) study, it can be argued that they seem to be in line with the studies of Barker (2007) and Hallinger and Heck (1998) that leadership does not have a direct relationship with student achievement but an indirect one.

Krüger, Witziers, anf Slegers, (2007) conducted a study to gain a better insight about the antecedents of and effects of principalship and about the influence of principalship on both intervening and outcome variables. Contrary to the studies provided above, the authors found neither direct nor indirect predictive relationship between leadership and a school outcome variable once other school context variables are included in the analysis. The authors asserted that this was not to say that leadership is unimportant as their study results showed leadership having a great impact on organizational features such as quality of school organization and culture. Further, the results of the study suggest that school culture was indirectly influence by leadership. Also, principal vision was found to have significant impact on strategies and behavior utilized by educational leaders in the schools. Lastly, the authors assert that leadership is affected by various institutional and contextual school factors such as school location, school size and student types. Interestingly, a negative relationship between strategic leadership and student commitment was found as part of the study which showed that leadership was more strategic when the commitment of students was low and vice versa. The authors commented on the importance of contingency models of leadership as their results indicated student commitment as a contingency variable for leadership.

Lastly, to discuss the third question of what fundamental features leadership holds, narrowing the discussion down to distributed leadership framework would be a valid decision as there are plethora of answers from different perspectives in the literature and distributed form of leadership is the one being investigated in this present study. Distributed leadership can be accepted as a relatively new approach to leadership. It could be of great potential in promoting student achievement. Harris and Spillane (2008), for example, put forward that distributed leadership has strong relationships with organizational change and different organizational outcomes. Still, distributed leadership is a relatively new approach to leadership and more studies are necessary to clarify the links between improved student outcomes and this particular form of leadership (Harris, 2004). Below in the next subheading, both empirical and theoretical literature on distributed leadership is provided in detail.

2.2.1 Distributed leadership

One of the central arguments behind distributed leadership, according to Spillane, Halverson, and Diamond (2001), is that the leadership in schools can be understood best by seeing it as a distributed phenomenon or in the author's term (pp. 23), a practice that is "stretched over" the social and situational context of schools. However, moving beyond the formally appointed leaders, that is, principals or assistant principals, to include informal ones is just a small aspect of distributed perspective on leadership according to Spillane (2005, 2006). Distributed perspective points out that leadership practice is of great importance. Spillane specifies this practice as the joint relationship between three factors: the leaders of an organization, the followers of an organization, and the situation. As it can be seen from the figure 2.1. taken from Spillane's book (2006, p. 3), leadership practice is depicted with the three corners of a triangle. Also, to emphasize that different situations can occur as time passes, the figure includes more than one triangle. Through this, the author also emphasizes that leadership both affects and is affected by the situation over time.

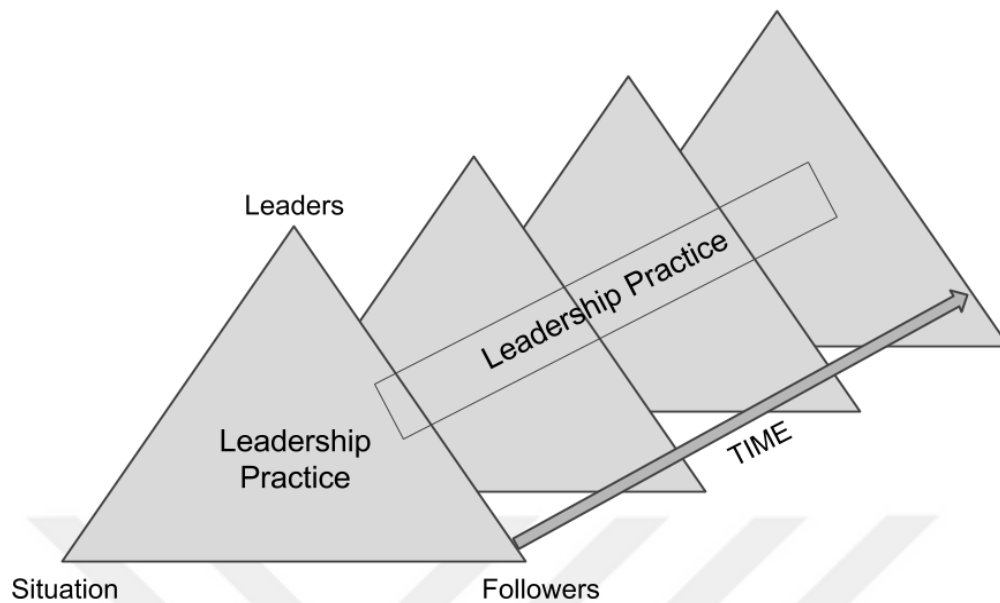


Figure 2.1. Leadership practice from a distributed perspective (retrieved from Spillane, 2006, p. 3)

Spillane (2005, 2006) put forward several reasons behind this conceptualization of distributed leadership. Followers, to start with, are seen as one of three constituting elements of leadership practice because in distributed perspective they are not perceived as passive receivers of leadership influence; rather, they are actively affecting it and are getting affected by it. Also, as it can be seen from the previous paragraph, from the distributed perspective, leadership role cannot be played by only one actor. Instead, there are multiple actors and these actors can be from formal or informal positions. Whoever takes an initiative in the organization and starts shaping the leadership practice, for example, becomes one of the actors in the leadership role. Also, the number of leaders may also change depending on the routine or subject area. For example, while evaluating teaching may involve only two leaders, typically principal and the assistant principal, teacher development efforts may involve more leaders such as curricular specialists, the principal and the lead teachers.

Moreover, the interactions among the leaders and followers are important, rather than mere actions of individuals. One of the leaders in an organization may take the

initiative and do something in an organization with an intention. However, it is with the interaction with other people and the situation that this initiative may end up not serving that intention or it may even serve for an opposing one. From the distributed perspective, interdependency is the main characteristic of the interaction in an organization. Thompson (1967) identifies three types of interdependencies: reciprocal, pooled, and sequential (as cited in Spillane, 2005, 2006). Reciprocal interdependency requires an effort from both sides. Pooled interdependency involves a sharing or producing common resources but are otherwise independent. Lastly, sequential interdependency involves completion of a task by one party so that the other party can continue on with their task.

In his publications, Spillane (Spillane, 2005, 2006; Spillane et al., 2001) provided more of a descriptive stance when defining distributed leadership although there are other authors who adopt normative stances (Mayrowetz, 2008). Spillane maintained that distributed leadership should not be seen as a cure for all the problems that schools encounter. Rather it is a “diagnostic tool” (2005, p. 149) to understand and evaluate the school leadership. Thus, to understand leadership better, he proposed that researchers should observe leadership as it naturally happens in the context of schools rather than making use of “espoused theories” (2001, p. 24) of practice to understand it.

Moreover, distributed leadership provides suggestions for school improvement efforts, too (Spillane et al., 2001). Since leadership is seen as a distributed activity, not only the appointed administrators but also the informal leaders of a school should participate capacity building activities such as seminars and workshops. In other words, each member of an organization that is related to leadership activities should be included in the improvement efforts. Furthermore, when it is evaluated with Spillane’s descriptive approach, school improvement efforts should focus on providing individuals with context and task specific knowledge rather than context-free and generic theories.

On the other hand, when it comes to the definition of distributed leadership, it can be said that there is a lack of clarity in the literature as distributed leadership is used with different definitions in different studies (Mayrowetz, 2008; Robinson, 2008). Mayrowetz (2008) asserted in his article that distributed leadership is widely used by the scholars and practitioners, it is supported by numerous organizations and by state-supported projects; however, these studies hold different definitions for this type of leadership. He summarized these different usages of distributed leadership under 4 main usages.

The first usage is about the theoretical lens for looking at the activity of leadership. According to this usage, Mayrowetz (2008) proposed that at least two shifts in thinking is necessary to study distributed leadership. First one is that, researchers should see administration as a distributed phenomenon; however, they should not ignore the presence of an administrator. The second shift in thinking is that since leadership is considered as distributed activities between the organization members, researchers should focus on the interactive actions -or “conservative actions” as Peter Gronn (2002) himself put between the members rather than the inherent role of a principal.

On the other hand, Mayrowetz (2008) put forward some weaknesses for this usage of distributed leadership. To illustrate, defining distributed leadership as the interactive activities in the organization poses another question: Which activities are considered as parts of leadership and which are not? Where should the line be drawn? Because of this reason it becomes harder to study this type of leadership as it is very hard to distinguish which action is a regular work and which one is a part of leadership (Lakowski, 2005).

Another issue about this usage of distributed leadership according to the author is the modest goals put forward by the pioneer theorists of it. In his book, Spillane (2006) asserted that distributed leadership is not something that schools should have; rather, it is something that schools already have. Looking from this descriptive perspective, distributed leadership could help the practitioners understand the leadership phenomena in the school better and when it comes to interventions, it may broaden the

target of intervention and help them focus on all the members of the school rather than focusing only on the administrator. However, as Mayrowetz (2008) asserted, for a field that is focused a lot on practices and problem-solving like leadership, this descriptive approach of distributed leadership may have limited implications. Furthermore, as a consequence of this, Mayrowetz (2008) asserted, most of the researchers in this area try to morph this descriptive stance into a normative stance very few embracing the activity framework although they cite Gronn and Spillane and colleagues in their studies.

The second usage that was dwelled on Mayrowetz's (2008) article is using distributed leadership to promote democracy. This usage is more of a normative than a descriptive stance. Most of the researchers and practitioners adopting this usage endorse this type of leadership to strengthen the democracy in the context. Storey (2004) summarizes this point of view by writing that leadership activities in schools cannot be accrued on one individual; instead, they should be distributed among the member of the organization. On the other hand, although the usage of distributed leadership to promote democracy may be significant for micro political considerations, the link between shared or democratic leadership and school improvement is still unclear.

Using distributed leadership for effectiveness and efficiency is the third usage dwelled on the article (Mayrowetz, 2008). The people who define leadership in terms of this definition put forward that by distributing the responsibility and activities of leadership the capacities of the other members of the organization will also be used. This way, the coaches or lead teachers can contribute to the effectiveness of the school using their experiences and capabilities. On the other hand, there is some evidence in the literature that claims otherwise. To illustrate, according to Leithwood and Jantzi (1998) the more distributed the leadership, the lower the student engagement levels are. Also, according to Timperley (2005), distributing leadership among the members of an organization may also mean distributing incompetence and thus, it is a risky business.

Using distributed leadership for capacity building is the fourth and the last usage of this particular leadership approach according to Mayrowetz (2008). According to this usage, since all the members actively participate in leadership activities, they all get experience in different issues and develop themselves and this in turn results in capacity building. However, the author criticizes this perspective. He puts forward that although this usage may be useful for promoting leadership development through capacity building, it has not been linked to school improvement as expected.

As it can be inferred from the paragraphs above, there are different usages of distributed leadership put forward by different researchers/practitioners. Mayrowetz (2008) proposed 2 suggestions for the this lack of clarity about distributed leadership. First, the researchers may continue to use the activity theory-based approach of distributed leadership that is mostly visible when looked at a theoretical lens; however, they should focus more on assessing the effectiveness of distributing patterns rather than merely describing them. Second, the researchers who adopt a more normative stance, should clearly define what they mean by distributed leadership, develop a theoretical framework and dwell on how their research will improve school effectiveness and leadership development efforts. Moreover, Leithwood, Seashore, Anderson and Wahlstorm (2004) contributed to this lack of clarity issue in distributed leadership, too, and suggested giving more thoughtful consideration to it as they put forward that distributed leadership is under the risk of becoming just a slogan unless more thought is given.

Timperley (2005), on the other hand, contributed to the issue of distributed leadership having numerous definitions by adding that it has, at least, an aspect that authors seem to agree on. According to her, many authors seem to agree that distributed leadership is not a mere delegation of responsibilities to certain people in a manner that each member's responsibilities are predefined. Instead, it is about the complex relationship between multiple leaders in which the question of who leads and who follows is not answered by the predefined formal hierarchy but by the task or problem situation.

Briefly, as Spillane (2006) put forward, distributed leadership is a set of emerging ideas rather than a monolithic one. Hence, different studies may use different conceptualizations for it. In this study, however, I am taking a position similar to Spillane's position which is articulated in his numerous articles (such as Harris & Spillane, 2008; Spillane, Halverson, & Diamond, 2001; Spillane, 2005, 2006) that leadership is already distributed to some extent in schools. Thus, this study holds less of a normative approach to distributed leadership. Bearing this in mind, this study explores the relationship of distributed leadership and student achievement in different schools that have varying effectiveness levels.

Aside from the discussion on the different definitions and conceptualizations of distributed leadership, it can be argued that studies linking distributed leadership and different organizational features have been present in the literature, as well. To start with, Hulpia, Devos and Van Keer (2011) studies the relationship between school leadership from a distributed perspective and teachers' organizational commitment. Making use of multilevel modeling, the researchers pointed out that 9% of the variation in teacher commitment was found to be a result of differences between schools. The authors noted based on the findings that teacher commitment was mainly predicted by cooperation within the leadership team, quality of the supportive leadership, and participatory decision making. By whom the supportive leadership function is provided made a very small change in the prediction of teacher commitment. Be it the principal, one of the principal assistants or one of teacher leaders, who provided support was less important rather receiving the support was crucial.

Furthermore, Mascal, Leithwood, Straus and Sacks (2008) investigated the relationship between distributed leadership and another school level variable, teachers' academic optimism. The authors studied distribution of leadership through four patterns; namely, planful alignment, spontaneous alignment, spontaneous misalignment, and anarchic misalignment. Also, academic optimism was conceptualized differently from Hoy et al.'s (2006a) original conceptualization in that this one had organizational citizenship behavior instead of academic emphasis and trust among teachers and towards principal instead of trust in clients. The results of the

study revealed a positive and significant relationship between academic optimism and planned approaches to distribution of leadership. Additionally, lower levels of academic optimism was found to be related to unaligned and unplanned approaches to leadership distribution.

Furthermore, Hester Hulpia, Devos and Rosseel (2009) explored the relationship between distributed leadership perceptions of secondary school teachers and teacher leaders and their job satisfaction and organizational commitment. To conduct their study, the researchers collected data from 1770 teachers working in 46 large secondary schools. Multiple regression and path analyses results suggested that distributed leadership, cohesive leadership team, and participative decision making explained an important amount of variation in organizational commitment; while the variation explained for the job satisfaction was noticeably lower. The study results also revealed that leadership cohesion and leadership support was found to have a strong direct relation to organizational commitment and an indirect relation to job satisfaction.

On the other hand, when it comes to the relationship between distributed leadership and student outcome, the number of empirical studies in the literatures is limited. In fact, Robinson (2008) drew attention to this issue and put forward that of the thousands of articles published in the field of educational leadership, the number of empirical articles investigating the relationship between leadership in general and student outcomes was less than 30 (Robinson et al., 2008). Given that distributed leadership is relatively a newer approach to leadership, the number of empirical studies will be, justifiably, much lower. Robinson (2008) discussed how studies can look more on the relationship between student achievement around two different conceptions. One conception is seeing distributed leadership as task distribution. This conception is concerned with the tasks involved in leadership and studying the relationship between the ones leading these tasks. The other conception is about the distributed influence processes. The author put forward that the second conception does not have the advantage of providing educational content as it focuses on influences only. Briefly, the author concluded in her article that integrating these two conceptions in suitable

form is likely to result in more productive approach to obtain stronger connections between distributed leadership and student achievement.

One of the few studies investigating the relationship between distributed leadership and a student outcome variable was Leithwood and Jantzis' (2000) study. In their study, the authors looked at the relationship of principal and teacher leaderships to student engagement levels along with other school and classroom conditions. Student engagement was measured through student filled scales and had two dimensions: identification and participation. Path analysis results revealed that principal leadership had greater effect on student engagement than teacher leadership. Principal leadership's effect was weak but significant; on the other hand, the effect of teacher leadership was not significant. Moreover, the researchers also found out that higher levels of student identification is related to higher levels of student participation in schools.

Similarly, Chang (2011) looked at the relationship between distributed leadership, academic optimism, and student achievement in the public elementary schools of Taiwan. The author made use of structural equation modeling to model the relationship between the three above-mentioned variables. Results of the study suggested that distributed leadership had a significant direct effect on academic optimism and it also had a significant indirect influence on student achievement through academic optimism. Academic optimism, in turn, had a significant impact on student achievement.

In another study by Kılınç and Özdemir (2015), the perception levels of teachers and administrators on the variables of distributed leadership, collaboration and collective responsibility, shared school vision, and perceived student achievement were investigated. The authors collected data from 2370 participants from 179 primary schools in Turkey and implemented a mixed research methodology. The study results showed that the perception levels of teachers and administrators on collective responsibility and collaboration, and perceived student achievement were higher than their perception levels on distributed leadership and shared school vision. From the

qualitative part of their study, Kılınç and Özdemir (2015) concluded that from schools with high capacity for leadership, participants reported to be taking part in instructional decision-making processes and vision building more often.

Moreover, McGuinness (2009) conducted a case study in a successful school that is located in an area that was shown to be socially deprived. The author conducted series of interviews with the school staff. Findings based on the interviews suggested that there was high levels of distributed leadership, much shared sense of vision, strong team work, collaboration and organizational learning. Based on these findings, the author concluded that there was a link between distributed leadership practice and pupil learning outcomes.

Additionally, Heck and Hallinger (2009) conducted a longitudinal study on the effects of distributed leadership on school capacity improvement and growth in math achievement for a four year period. The data for the study was collected from 195 elementary schools in one state and was analyzed with multilevel change analysis method of using SEM. Study results revealed that growth in distributed leadership was related to growth in academic capacity. Also, a moderate and significant effect of distributed leadership on academic capacity was found. The authors also found out that change in academic capacity and growth rate of math achievement was significant. Besides, indirect change in distributed leadership through a mediating variable of change in academic capacity on student math achievement and sociocurricular growth rates were found to be significant, as well.

Moreover, Leithwood, Patten and Jantzi (2010) put forward a framework to understand the impact of leadership on student achievement. According to the authors distributed leadership influenced learning outcomes in four paths: rational, emotions, organizational and family. The researchers tested this “four path” model with a sample of 1445 teachers in 199 schools. Results of the study revealed that 43% of the variation in student achievement was explained by the Four Paths model. The variables under emotions, rational, and family paths explained the amount of student achievement analogous to each other. Moreover, variables included in the organizational path were

not found to be related to learning outcomes. Besides, distributed leadership had its least impact on family path and most impact on organizational path.

In another study by Leithwood and Mascall (2008), the relationship between collective efficacy, three key teacher variables and student achievement were investigated. The authors put forward motivation, capacity, and work settings as the important variables related to teachers and conceptualized collective leadership as a distributed control and influence. Study results revealed that the proposed model of collective efficacy explained 20% of the variation of student achievement. Collective efficacy influenced student achievement through teacher motivation and work settings and although collective efficacy had a significant effect on teacher capacity, capacity was not significantly related to student achievement. Moreover, the researchers also found out that influence on decision-making were coming from various range of people such as principals, teachers, parents, and students. Among these influences, parent and student influence was found to be related to student achievement significantly. The results also revealed that in high-achieving schools, the traditional principalry role remained highly influential but all the another stakeholders had influence over decisions, as well. Whereas, in low-achieving schools, leadership tended to be laissez-faire.

All in all, from the literature provided above, it can be argued that a full consensus on the definition of distributed leadership has not been reached yet. On the other hand, there seems to be some features of distributed leadership that are accepted by various definitions such as the notion that it is not a mere delegation of leadership in a predefined manner but a complex relationship between people taking the initiative. Moreover, the existing literature covers numerous studies that look at the relationship between distributed leadership and differing school-level variables. Nonetheless, although some amount of empirical research looking at the relationship between distributed leadership and student achievement has been conducted lately, it can be argued with confidence that the literature on this issue is still in its infancy stage (Robinson, 2008; Robinson et al., 2008). Also, Heck and Hallingers' (2009, 2010) point that most of these newly conducted studies are descriptive in nature and that few studies investigated the effect of distributed leadership on student achievement, clearly

denotes the need for more studies utilizing methodologies that are different from being merely descriptive.

2.3 Informal Structure: Teacher Collaboration

A chief problem with working on the concept of teacher collaboration is that there are numerous definitions and operationalizations in the literature and that no universal definition can be found (Scribner & Bradley-Levine, 2010). Further, although some of these definitions overlap, there are some that compete with each other (Lomos et al., 2011; Muijs & Harris, 2003). For example, social collaboration in schools has been conceptualized as a climate variable, a culture variable covering collegiality norms and trust, a professional learning community characteristic or a perspective for school effectiveness in different studies (Moolenaar, 2012).

For this purposes, it is important to first define what is meant by teacher collaboration in this study. Teacher collaboration that was incorporated into this study is mainly drawn from the framework of teacher leadership. Harris and Muijs (2005) define teacher leadership as a concept that is primarily concerned with behaviors and practices that are realized through collaboration. Its fundamental concern is the connections and relationships between individuals in a school. Boles and Troen (1994) compares teacher leadership with traditional leadership approach and put forward that its main difference is the working together of colleagues to produce a collective expertise.

Moreover, Harris (2002) dwelled on four discrete dimensions of teacher leadership role in her book. A first dimension is related to applying the conventions of school improvement to the classroom level. A second dimension concerns the participative context in which all teachers have a say and develop ownership of change. A third dimension focuses on the mediating role of teacher leadership in school improvement. Teacher leaders are significant basis of expertise and information for improvement purposes. And a fourth and probably the most important role is building up close connection with individual teachers so that mutual sharing of expertise and knowledge occurs. This study mainly focused on the fourth dimension of teacher leadership role

in its operationalization of teacher collaboration. More specifically, the study focused on the informal aspect of teacher leadership and collegial interaction to improve the instruction and thus, student learning.

Furthermore, Moolenaar (2012) argued in her review of teacher collaboration in educational organizations that the studies on this phenomenon can also be differentiated into two streams in a broad sense. One of them is the stream of analyzing teacher collaboration between districts or schools. School partnerships for a common goal between two or more schools is a good example for this. The other stream of studying teacher collaboration is to study the phenomenon by exploring the interactions within schools and districts. The present study studied teacher collaboration within schools. The participant teachers from each school filled in the questionnaires distributed about the collaboration in their school and the data gathered are grouped to school level so that the within school collaboration can be incorporated to the study. On the other hand, the literature provided in this review includes some different conceptualizations of collaboration in educational settings since these conceptualizations are not completely different from each other and there are some intertwinements.

Moreover, in her review of literature on the studies investigating within school social networks, Moolenaar (2012) found out five key findings on schools' social network structure. The first finding was that social network structures differ across schools. According to the author, different schools may have considerably different collaboration structures in them. The second finding was that within school structures are generally divided into subgroups. In other words, there could be some clique formations between teachers and these small social groups may not always follow the formal structure of the schools, which brings us to the third key finding. Thirdly, Moolenaar (2012) asserted that schools' social network structure often diverges from formal structure. To put it differently, the formal roles in schools such as principals, coaches and teachers may not always align with the social interaction patterns in schools as Penuel and colleagues argue in their study (2010). As a side note, this key finding supports the decision of incorporating both formal and informal structures into this present study along with distributed leadership since these two notions are not the

same but they are in a way interwoven. The fourth key finding Moolenaar (2012) asserted in her review was that social networks may have different purposes and they shape accordingly with these purposes. Lastly, the author put forward that various school and individual characteristics shape social interaction in school. These factors could be the age of the teachers, their gender or the grade levels they teach. Briefly, according to the author, these five findings from the within school social interaction literature provides an overview of the current knowledge on this issue.

Moving on to the literature on studies investigating the direct relationship between teacher collaboration and student achievement, it can be said that the number of studies exploring this relationship is hard to come across. Furthermore, it is worth noting that the findings of the studies that investigated the relationship between student achievement and similar conceptualizations of social interaction are mixed.

First of all, one of these few studies was conducted by Y. L. Goddard, Goddard, and Tschannen-Moran (2007). In their study, the authors collected data from the sample of 452 teachers and 2536 students from 47 elementary schools to explore the relationship between student achievement and teacher collaboration. The authors also incorporated control variables such as student gender and prior achievement to their multi level analysis. The results of their study showed a significant relationship between differences in student achievement among schools and teacher collaboration. The relationship was reported to be moderate in nature.

Moreover, as part of their study, Marks and Louis (1997) looked for the direct relationship between student achievement and teacher empowerment. Although not being the same variable, teacher empowerment can be accepted as a similar concept to teacher collaboration as the authors put forward that the concept also stressed collaboration among faculty and put forward shared decision-making. To conduct their study, the authors collected data from 24 schools and analysed these data with the help of HLM. The findings of the study suggested that teacher empowerment may be important but not sufficient for teachers to change their ways of teaching and that there were no direct relationship between teacher empowerment and student achievement.

Also, the authors noted that their data had implications that there could be an indirect relationship between the two abovementioned variables.

Moreover, Lomos, Hofman, and Bosker (2011), did a meta-analysis on the studies investigating the relationship between professional communities and student achievement. The authors searched the literature to select studies that fit their criteria which included a clear conceptualization and operationalization of professional community and a clear student achievement measure. Eventually, the authors ended up with 5 studies for their meta-analysis. As a result of the meta-analysis of five studies, the researchers concluded that there is a diverse but positive relationship between student achievement and professional communities. The authors pointed out that this relationship was a small one. The authors also acknowledged that comprising only five studies for a meta-analysis was a limitation of their study and that the results should be evaluated accordingly.

In another study, Tschannen-Moran, Uline, Hoy, and Mackley (2000) did a year-long in-depth case study on a school that had made a significant improvement in school-wide reforms. The main purpose of their study was to discover the nature of the process of ongoing improvement efforts in this particular school and the ways in which collaboration may play a role in these efforts. The researchers conducted 47 interviews with administrators, teachers, students, and parents for the study. They concluded based on their case study that collaboration in schools, both among teachers and among teachers and administrators, fosters organizational learning and helps schools become organizations that learn. To support their conclusion, the authors also provided some numerical data such as the increase in the attendance rates, increase in the graduation rates of students, and increase in the percentage of students continuing to higher education. On the other hand, the authors acknowledged in their article that collaboration has its own challenges such as complexities in changing the long-held practices and beliefs and the already existing norms of autonomy and equality among teachers.

Moreover, Penuel and colleagues (2010) did an in-depth, two-year case study to explore the importance of alignment of formal and informal structures of schools in the creation of shared vision and thus, helping the school as an organization move towards its desired goals. They base their research on past findings that both formal and informal walks of schools as educational organizations have an important role in school improvement. To investigate these roles further, the researchers conducted a multimethod case study. From the two schools selected for in-depth study, the authors both conducted interviews with and applied questionnaires to the teachers and principals. The conclusions drawn from the study, provided some important insights about the interaction between formal and informal structures in schools. First of all, the study showed some evidence that the formal and informal structures may not always align in educational organizations. This gap between “designed” and “lived” organizations showed the importance of considering informal structure of the organization when a shared vision and successful implementation of change is to be sought after. Moreover, the researchers suggest that eliminating this gap is almost impossible and the main focus should be on analyzing the conditions to align them for a more commitment towards a common vision of success. Aligning them to work together is important, since both informal and formal part of the organization can initiate or ease organizational improvement. The interview findings of the study supported these contentions in that in one of the schools, the informal patterns of information exchange impacted role formalization and the formal structure, such as formal leadership, reinforced the conversations about teaching showing a school society with a good alignment between formal and informal structures. On the other hand, the other school observed in the study indicated that a misalignment between formal and informal processes in a school can result in different groups following competing visions of improvement. In other words, in one school shared decision-making as a product of good alignment between formal and informal school processes helped school improve while the misalignment between the two hindered the development of a shared vision for improving the school.

Scribner and Bradley-Levine (2010) did another in-depth case study on teacher leadership. They focused on exploring how teachers ascribed meaning to teacher leadership. To collect data, the researchers did interviews with all seven teachers and the administrator of the participating school along with a district level administrator. The researchers also went to the school several times to do observations. The participating school was reported to be in the process of a major reform. The findings of study shed light on how the cultural constructions of teacher leadership may affect or restrain the enactment of interaction patterns both among teachers and among students and teachers by justifying some leadership acts and not others. One of the findings of the study was that even if the female teachers of the school were engaged in acts that had effect on their colleagues, these teachers were not seen as informal leaders in organization. Moreover, building good relations with both teachers and students and supporting them were not, again, seen as leadership by teachers. Also, the authors put forward that organizationally legitimized roles and institutionally legitimized content area expertise were effective patterns on legitimizing teacher leadership. In the school, two teachers occupied leadership roles because of organizational legitimization as one of them was backed up by the administration and the other had an administrative role before in a previous school. Also, institutionally legitimized content area expertise played a role in teacher's perspective on pointing out a teacher leader based on the credentials they had in that subject area.

On the other hand, teacher collaboration has its own challenges and it should not be seen as a flawless concept. For example, it has been pointed out in the literature that egalitarian assumptions between teachers may put some hindrances for teachers to share their expertise and show the way to their colleagues (Katzenmayer & Moller, 2001; Muijs & Harris, 2003). In other words, the possibility of not getting an approval from their colleagues puts a challenge on teacher collaboration. Moreover, "top-down" approaches to leadership also hinders teacher collaboration as it limits teachers taking initiatives. Thus, it is important to study teacher collaboration along with distributed forms of leadership. It can be said that these two notions are compatible and in a way complementary to each other. Further, if the staff lacks the necessary skills to

communicate in an effective way, Marks and Louis (1997) put forward that collegial collaboration may lead to a conflict rather than increased school outputs.

All in all, it can be argued based on the literature provided above that the relationship between student achievement and informal structures in schools has not been studied adequately. The lack of consensus on conceptualizations of teacher collaboration and mixed findings about its effect on student achievement clearly denotes that more studies is necessary on this issue. Therefore, this study's contribution to the field in this sense is expected to play a positive role for these discussions.

2.4 Formal Structure: Enabling School Structure

Murphy (2013) pointed out that classical bureaucracy in the schools that we know it hinders creativity, initiative and professional judgement in the schools. He maintained that bureaucracy impacts flexibility of the schools and thus, effecting school improvement. According to him, the existing bureaucratic system in the schools is not capable of meeting the needs of today's education system. And these ideas are not peculiar to Murphy (2013) only, bureaucracy tends to evoke negative feelings for many (Buluç, 2009; Sinden et al., 2004).

On the other hand, Hoy and Sweetland (2001) put forward a different perspective into the literature about bureaucracy. Their perspective does not neglect the critical viewers of bureaucracy in educational organizations. What they do see different is their claim that bureaucracy could have a not-so-bad side, too. In their article, Hoy and Sweetland (2001), presented a typology for bureaucracy and asserted that it can be enabling or coercive in nature.

Moreover, Hoy and Sweetland (2001) put forward that there are two aspect of bureaucracies. One of the aspects is formalization and the other one is centralization. The formalization aspect of bureaucracy is defined as to what degree the institution employs rules, policies, regulations, and policies. On the other hand, centralization of an institution is related to what extend the employees of the institution participate in decision-making processes.

2.4.1 Formalization

As a brief definition was provided above, formalization of an institution is the extent to which an institution has predefined rules, regulations, policies, and procedures. At this point, it should be noted that the theoretical analysis of classifying formalization as enabling or coercive was first done by Adler and Borys (1996). Hoy and Sweetland (2001) was inspired by Adler and Borys' (1996) terminology and classification, as the authors themselves put in their article, and continued using it in their studies.

According to Hoy and Sweetland (2001), coercive formalization generally leads to alienation of employees with the cost of commitment. Rather than encouraging learning as an organization, coercive formalization forces employees to comply as simple subordinates without initiative. Coercive procedures and rules focus on penalizing subordinates instead of rewarding their good practices. According to the authors (2001), the rules and regulations of an organization simply cannot be infallible. Instead, the more hindering they are, the more they will affect the organization negatively in dynamic situations.

On the other hand, enabling formalization helps employees find solutions to problems they face during their work. Enabling regulations and procedures are flexible set of guidelines that enable employees handle unexpected situations or crises. They, in a way, reflect "good practices" to the members of an organization. This way, they encourage taking initiatives and professional judgement to ease the problem-solving processes. Below in Table 2.1, the table offered by Hoy and Sweetland (2001, p. 299) to contrast enabling and coercive formalizations can be found.

Table 2.1

Differences between Coercive and Enabling Formalization (retrieved from Hoy & Sweetland, 2001, p. 299)

Enabling Formalization Characteristics	Coercive Formalization Characteristics
Engage in interactive dialogue	Frustrate two-way communication
View problems as opportunities	View problems as obstacles
Foster trust	Foster mistrust
Value differences	Demand consensus
Learn from mistakes	Punish mistakes
Delight in the unexpected	Fear the unexpected
Facilitate problem solving	Blindly follow the rules

2.4.2 Centralization

Centralization refers to the level of employee participation in decision-making. It basically focuses on how centralized the decision-making process is. High centralization denotes that decisions in that organization are taken by the few at the top of the hierarchy and low centralization denotes that the hierarchy is not too “tall” and that more employees participate in the decision-making process. Higher levels of centralization is generally associated with hindering system as they represent the classical way of hierarchy in which the authority is concentrated on top and directives from the higher levels of authority flow down through the chain of command. Hoy and Sweetland (2001) categorize centralization into two categories, as well: enabling centralization and hindering centralization.

Organizations that which have a hindering centralization in its formal structure has an administration that hinders problem-solving and innovation. In these types of organizations, management impedes possible innovations and use its power to force employees to simply follow orders. In school contexts, hindering centralization generally results in resistance from teachers. To illustrate, they may not want to fulfill

the artificial, top-down-mandated standards and want to serve the real needs of their students.

On the other hand, Hoy and Sweetland (2001) put forward in their article that centralization in schools is inevitable. Schools have district leaders, principals, lead teachers, and students. Moreover, according to the authors, the present evidence shows that the hierarchy of authority in schools is not going anywhere anytime soon. Therefore, the authors suggested that rather than fighting against bureaucracy, having a solution-centered thinking would be wiser. To this extend, researchers offered a different way of thinking that centralization in organizations may not be hindering all the time. Instead, it can be an enabling, too. They defined enabling centralization as a phenomenon that helps employees solve problems rather than getting in their way. It lets members from different levels in the hierarchy of an organization to work together whilst letting them retain their distinct roles. It is more of a flexible and collaborative work environment in which both subordinates and superiors can have trust based relationships and keep their hierarchy at the same time (Hoy, 2003; Hoy & Sweetland, 2001; Sinden et al., 2004).

Furthermore, the idea that the less the centralization there is, the more enabling the centralization would not be an altogether good logic; it is more complicated than this. What is being meant by Hoy and Sweetland (2001), and Sinden and his colleagues (2004) is that the negative consequences of hierarchy is not an innate part of the structure itself but a result of the decisions and administrative processes that are adopted by the management in implementing their authority. Thus, the authors' argument is not completely directed towards hierarchy but towards a type of hierarchy/centralization that hinders. Below in table 2.2, a table for the main differences between coercive and hindering centralization is provided.

Table 2.2

Differences between Coercive and Enabling Centralization (retrieved from Hoy & Sweetland, 2001, p. 301)

Enabling Centralization Characteristics	Hindering Centralization Characteristics
Facilitates problem solving	Frustrates problem solving
Enables cooperation	Promotes control
Collaborative	Autocratic
Flexible	Rigid
Encourages innovation	Discourages change
Protects participants	Disciplines subordinates

Consequently, Hoy and Sweetland (2001) proposed a typology of bureaucracy by cross-partitioning the aspects of centralization and formalization. According to this typology, there are four types of bureaucracies. One of them is enabling bureaucracy in which both centralization and formalization are enabling. In this organizational structure, the rules and regulations let employees take initiatives in crises and they are flexible. Centralization of the structure is also a benevolent one. It encourages organization members rather than demotivating them.

Another structure type according to this typology is Hindering bureaucracy. In this type of bureaucracy both centralization and formalization are coercive. This is the opposite of enabling bureaucracy. This structure could be compared to what Mintzberg called as machine bureaucracies or what Gouldner called as punishment-centered bureaucracies (as cited in Hoy & Sweetland, 2001).

Also, theoretically, two more types of bureaucracies are put forward by the authors with an assumption that formalization and centralization dimensions are independent. One of them is called by the authors as rule-bound bureaucracy in which formalization is coercive but centralization is enabling. In this type of bureaucracies, rules are so strong and pervasive that centralization is not necessary. In this structure, as the authors put “the rules rule” (Hoy & Sweetland, 2001, p. 302). Further, a structure can

have an enabling formalization but coercive centralization. In this type of organizations, the hierarchy is so strong that the rules does not matter much. Top management takes decisions and employees comply. This type of bureaucracy is called as hierarchical bureaucracy. Below in figure 2.2, a visual illustration of the school bureaucracy typology can be found.

		Formalization	
		Enabling	Coercive
Centralization	Enabling	Enabling Bureaucracy	Rule-bound Bureaucracy
	Hindering	Hierarchical Bureaucracy	Hindering Bureaucracy

Figure 2.2. A typology of school bureaucracy (retrieved from Hoy & Sweetland, 2001, p. 302)

However, eventually with the scale development efforts and later empirical works , Hoy and Sweetland (2001) found out that formalization and centralization were not independent dimensions. Rather, they found out that bureaucracy of organizations can be explained by a bipolar factor that has enabling bureaucracy in its one side and coercive bureaucracy on the other. This finding was supported by the later findings of studies as well (e.g. McGuigan & Hoy, 2006; Sinden et al., 2004; Wu et al., 2013).

Based on this theoretical framework, Hoy and Sweetland (2001) constructed and empirically tested Enabling School Structure Scale. This scale has become the main

scale used to measure bureaucratic structure of schools in the literature. For instance, in his study, Buluç (2009) made use of the theoretical framework and the scale offered by the above-mentioned authors to study the relationship between the enabling school structure and the leadership styles of school principals in primary schools in Turkey. To conduct his study, he did the adaption of Enabling School Structure Scale to Turkish. And his adoption of the scale paved the way for Turkish scholars to study bureaucratic structures of schools in Turkey. In his study, Buluç (2009) collected data from 250 primary school teachers from 12 schools that are located in three districts of Ankara. He explored answers to four research questions; namely, the level of effectiveness of the bureaucratic structure of primary schools, the leadership styles of school leaders, if there were relationship between enabling school structure and leadership styles of principals, and whether enabling school structure predicted leadership styles of principals. For the first two questions, the researcher did a descriptive analysis of the results. According to the results of the study, bureaucratic structure of the primary schools were slightly below the central value. Buluç (2009) interpreted this result as schools in Turkey do not have very coercive centralization and formalization in their structure. For the second research question, the researcher concluded that principals in Turkey had transformational leadership styles rather than having transactional styles. Regarding the third question, author concluded that there was a significant relationship between enabling bureaucracy and transformational leadership style but no relationship was found between bureaucratic structure and transactional leadership. Lastly, the author conducted simple linear regression analysis to explore if there were any predictive relationship between the variables. Buluç (2009) reported that while enabling bureaucracy predicted transformational leadership significantly, no significant predictive relationship was found between transactional leadership and bureaucratic structure.

Özer and Dönmez (2013) reinvestigated the Turkish form of Enabling School Structure Scale (ESS) that was adapted by Buluç in 2009. To explore the validity and reliability scores of ESS, which was also used to collect data in this thesis work, the researchers collected data from 1018 teachers from 75 primary schools in the city of

Malatya. The authors put in their article that it was important to conduct a confirmatory factor analysis for the scale since Buluç (2009) only conducted exploratory factor analysis. According to the results of the study, the Turkish form of ESS scale had two factors as enabling and coercive bureaucracy rather than having one factor. The authors also reported that the items included in the study explained the %51 of the variation and that the Cronbach values for the both factors were satisfactory.

Özdemir and Kılınç (2014) studied the relationship between enabling school structure and teachers' academic optimism level. To conduct their study the researchers collected data from 211 teachers working in the primary schools of the province of Kastamonu. The researchers looked at the answers of three research questions in their study. These questions were related to the perceptions of primary school teachers toward the levels of both bureaucratic structure of schools and academic optimism, whether there were a relationship between the academic optimism perceptions and enabling school structure perceptions of teachers and if enabling school structure perceptions of teachers predicted academic optimism perceptions of teachers. To answer the first research question, the researcher make use of descriptive statistics and report that while the bureaucratic structures of schools were perceived negatively as coercive, the academic optimism perceptions of teachers were higher than he central value. Correlation analysis was conducted to check if there were a significant relationship between the two variables. Özdemir and Kılınç (2014) reported as a result of their analysis that there was indeed a significant relationship between the variables. Lastly, the authors conducted a multiple linear regression analysis to answer their third research question. According to their analysis results, the authors asserted that bureaucratic structure perceptions of teachers significantly predicted the academic optimism perceptions of teachers and %21 of the variance was explained.

Karaman, Yücel and Dönder (2008) explored the relationship between bureaucratic structures and organizational citizenship behavior perceptions of teachers. The authors' conceptualization of bureaucratic structure was not the same as Hoy and Sweetland's (2001) definition, however. The authors used Hall's "Organizational Inventory" to measure the bureaucracy perceptions levels of teachers. To conduct the

study, the authors collected data from 538 teachers working in 26 schools in the province of Uşak. The schools were chosen by stratified sampling method. The authors made use of correlational method to analyze the relationship between the two variables. Results of the study revealed that the higher the rule enforcement and regulations, the higher the teacher helping behavior. Also, the authority hierarchy had a significant positive relationship with all the dimensions of organizational citizenship behavior with the exception of sportsmanship dimension. On the other hand, rules and regulations dimension of bureaucracy had a negative relationship with organizational justice and life satisfaction of teachers. The authors also put forward that organizational justice had negative relationships with all dimensions of bureaucracy.

Cerit (2012) studied the relationship between the enabling school structure and classroom teachers' professional behaviors. The author collected data from all the primary schools that are located in the central district of Bolu since there were only 24 schools. Eventually, the researcher ended up with questionnaires filled by 260 classroom teachers out of 330. The main analyses used in the study were canonical correlation and regression analysis. The author put forward based on the descriptives of the study that schools had coercive bureaucracy. Moreover, the results of the study suggested that there was a positive and significant relationship between enabling school structure and classroom teachers' professional behaviors. Lastly, based on the regression analysis, Cerit (2012) asserted that the bureaucratic structure of schools significantly predicted professionalism of classroom teachers. %26.9 of the variation in professional behaviors of classroom teachers were explained by enabling school structure. On the other hand, it is worth noting that the researcher mentioned in his paper that the most crucial aim of schools was student achievement. However, rather than directly including student achievement as a variable, the researcher added teacher professionalism to the analysis implying that it will improve student achievement. To this end, it can be said that this is a presumption and it needs to be tested empirically.

Hoy and Sweetland (2001) provided an empirical study in the article that they proposed the theoretical framework of enabling school structure. They investigated the relationship of faculty trust in principal, truth spinning, and role conflict with enabling

school structures. The authors hypothesized that bureaucratic structure of schools would have a positive relation with faculty trust in principal but negative relation with both truth spinning, and role conflict. To test their hypotheses, the authors collected data from nonrandomly selected 97 high schools located in the state of Ohio. High schools were specifically selected since they are generally bigger and more departmentalized than middle and elementary schools and, also, to control for the school structure. Based on their correlational analysis, the authors reported that all the hypotheses they put forward were supported. Moreover, the authors conducted a regression analysis as well. School size, urbanicity and SES variables were also added to the model as control variables. According to this regression analysis results, all the variables predicted enabling school structure significantly and together, they explained 78% of the variation in enabling school structure.

Sinden, Hoy, and Sweetland (2004) did a qualitative study to do an in-depth examination of the concept of enabling school structure. For the sample of the study, the authors chose 6 schools from the schools that were found to have high enabling school structure in Hoy and Sweetlands' (2001) study. The researchers conducted interviews with a total of 27 teachers. The authors concluded based on the conducted interviews that teachers in these schools agreed that bureaucratic structures can have a positive impact on the processes of schools and teacher attitudes. Moreover, these schools were not found to fit the classical description of rigid formalization and hierarchy put forward by Weber (as cited in Sinden et al., 2004). Further, a variation was observed in teachers' opinion towards whether a behavior is enabling or not although there were a consensus on some behaviors. Also, the authors put forward that there are two basic dilemmas that have to be faced in educational contexts: communication vs coordination and freedom vs order. According to the authors, the enabling principals were more on the side of communication over coordination and autonomy over order. However, this should not be understood as there were no coordination or formalization in these schools.

Moreover, Messick (2012) examined the relationship between enabling school structures, academic optimism, and organizational citizenship behaviors. Also, the

researcher tested if academic optimism served as a mediator between the variables of enabling school structures and organizational citizenship behavior. The data was collected through surveys from 589 teachers working in 65 schools in the state of Alabama. Bivariate correlation results showed that all three variables had a positive correlation among them. Regression analysis results suggested that both enabling school structure and academic optimism positively predicted organizational citizenship behaviors and that academic optimism played only a partial mediator role between the other two variables.

As it can be seen from the literature provided above, there are various studies investigating the relationship between bureaucratic structures and other organizational features of schools. On the other hand, the studies that looked at the relationship between student achievement and school bureaucratic structure are limited. Further, when it comes to studying the direct relationship between student achievement and enabling bureaucracy, the present study can be considered as one of few studies to be conducted on the area as the number of studies investigating this relationship is very limited.

First of all, Tarter and Hoy's (2004) study is one of the very few studies that looked at the direct relationship between student achievement and enabling school structure. The authors looked at the predictive relationship between enabling school structure, culture of trust, collective efficacy and politics with two school output variables of schools. The authors made use of two output variables; namely, student achievement test scores obtained from the state and the perceptions of teachers obtained from overall effectiveness scale. Accordingly, the researchers did two separate multiple regression analyses. The data was collected from a nonrandom sample of 145 elementary schools in the state of Ohio. The preliminary bivariate correlation analysis showed that enabling school structure, culture of trust, and collective efficacy, and absence of politics all had a positive relationship with the two measures of school outcome and thus, validated the first four hypotheses of the study. Moreover, for the last hypotheses, Tarter and Hoy (2004) conducted two multiple regression analyses for the two school outcome variables. The results were interesting in that for student achievement test

scores, only enabling school structure and collective efficacy were found to have a significant independent relationship and for the teacher perceptions on the effectiveness of schools only culture of trust and politics had a significant independent relationship. The authors commented on these findings in their article as the multiple regression analyses having a complementary results.

Moreover, McGuigan and Hoy (2006) looked at the indirect relationship between student achievement and enabling school structure through academic optimism. The authors made use of path analysis to test their hypotheses. To conduct the analysis, the authors collected data from a nonrandom sample of 40 elementary schools from the state of Ohio. Results showed that enabling structure had a positive and significant relationship with academic optimism and, in turn, academic optimism was found to be effective in promoting math and reading achievement regardless of SES. Hence, the bureaucratic structure was found to be having an indirect positive relationship with student achievement through academic optimism. Being a control variable, SES was found to be positively related to student achievement, too.

Further, Wu, Hoy and Tarter (2013) also explored how enabling school structure may relate to student achievement. They replicated McGuigan and Hoys' (2006) model in Taiwan culture and extended it by adding the variable of collective responsibility to the structural equation modeling analysis. To test the proposed model the authors made use of structural equation modeling. The data for the analyses were collected from a nonrandom sample of 103 primary schools that are located in the Hualien County of Taiwan. 1095 valid questionnaires with a response rate of 91% were included in the analysis. The results of the study supported the studies it replicated (Hoy, Tarter, et al., 2006a; McGuigan & Hoy, 2006). Academic optimism was found to have a significant effect on student achievement. Moreover, enabling school structure and collective responsibility was shown to be influencing student achievement through the variable of academic optimism. One interesting finding of the study was that SES variable was not found to be having a significant predictive relationship with student achievement. The authors acknowledged in their article that this might be because of their sample or the Taiwanese culture that emphasizes

education. In either case, more research is necessary to understand which explanation was true.

All in all, from the literature provided above, it can be said that numerous studies on enabling school structure can be spotted in both Turkish and international literature. Also, it can be inferred from the literature that enabling school structure is a promising variable for student learning outcomes as it was shown to have positive relationships with various school-level features. However, although many studies can be spotted in the literature on the variable's relationship with differing school-level variables, its relation with student achievement is not studied enough. Moreover, studies investigating its direct relation to student achievement is very limited. Hence, more research is necessary to study this relationship and the present study can be considered as an answer to this call.

2.5 Academic Optimism

Perspectives on schools and their effect on students changed a lot with the Coleman Report (1966). After the seminal work of Coleman (1966), researchers in the field of education started trying to disprove Coleman and show that schools do make a difference on student achievement (Hoy, 2012). Different school variables that may possibly have an impact on the student achievement have been studied for this purpose. These variables include but not limited to openness of the school climate, organizational health, and trust on principal, colleagues and organization.

Because of these failures to relate school level variables with student outcomes, scholars' focus shifted towards the bureaucratic structures and the principal-teacher relationships. Only after the influential article of Edmonds (1979), the scholars started to study the relationship between school factors and student achievement again. In his article, Edmonds (1979) challenged Coleman's (1966) contention that schools' effect on student achievement is trivial when the socio-economic background of the students are taken into consideration. Rather, with series of case studies he prepared a list of characteristics that the effective schools possess. These characteristics can be listed as

strong principal leadership, high expectations for student achievement, emphasis on basic skills, an orderly environment, and frequent, systematic teacher evaluations.

In addition to the variables discussed above, researchers have been working on three variables that found to have effect on student achievement regardless of socio-economic background which constitute the main discussion of this section. These variables are academic emphasis, collective trust, and collective efficacy. It is also shown by some studies that these three variables together constitute a latent variable called academic optimism (Hoy, Tarter, et al., 2006a; McGuigan & Hoy, 2006; Smith & Hoy, 2007; Tschannen-Moran et al., 2013; Wu et al., 2013).

2.5.1 Components of academic optimism

Under this section, theoretical background for the three dimensions of academic optimism are provided separately. Since most of the studies investigating academic optimism incorporate all three variables, empirical literature is offered after theoretical backgrounds of all the three dimensions are provided. However, studies that break up the latent variable and include only one of the dimensions are provided under the relevant subheading of that dimension.

2.5.1.1 Academic emphasis

Academic emphasis is the degree to which schools give importance to the academic excellence of their students. In schools with high academic emphasis, there is a respect for the academically successful students, teachers give importance to students' academic improvement and members of the school know that the academic achievement is an important part of the organization. Moreover, challenging but attainable goals are set for the students in these organizations and the context of learning is serious (Hoy, 2012; Woolfolk Hoy, 2012).

Academic emphasis has generally been shown to be in positive relationship with student achievement; however, when it comes to whether or not having a direct relationship with student achievement, it can be said that there is no same consistency in the literature. To illustrate, a study by Hoy, Sweetland, and Smith (2002)

investigated an organizational model for school achievement in high schools. The organizational model they tested in their study investigated the relationship between the socioeconomic status of the students, academic emphasis, collective efficacy and student achievement. The authors put forward two hypotheses. The first one asserted that academic emphasis would be positively associated with student achievement and the second one put forward that collective efficacy would be positively associated with student achievement. To test their hypotheses, they collected data from 97 high schools that were not randomly chosen but, according to the authors, carefully chosen to include urban, suburban, and rural schools from diverse geographic areas of the state. The mathematics achievement scores were obtained from the state-administered 12th-grade proficiency test in mathematics in Ohio. The SES information was also gathered from the state resources. And the collective efficacy and academic emphasis was collected through questionnaires. Based on these data, the researchers conducted a path analysis. Although most of the expectations were supported by the analysis, there were some unexpected results, too. Collective efficacy and SES had a direct positive significant relationship with student achievement, as expected. However, academic press did not have a direct significant relationship with student achievement despite having a small, positive one. Academic emphasis only predicted collective efficacy in a significant manner. In their discussion part, the authors explained this in a way that when collective efficacy is present, academic emphasis loses its direct effect on student achievement and it works through collective efficacy and thus, academic emphasis is “most potent when collective efficacy is strong” (Hoy et al., 2002, p. 89).

2.5.1.2 Collective trust in parents and students

Trust has become more and more important in today's organizations. As with the enhancement of technology, numerous novelties in which we interact come into place. Novelties such as different social media tools and different communicating channels make it easier and more desirable for people to gossip. Moreover, the alterations in political, economic situations and the life prospects of people lead our lives to be more complex and less certain. Therefore, studying trust has become very important (Tschannen-Moran & Hoy, 1998).

In their extensive review of the literature, Tschannen-Moran and Hoy (2000) compares trust to a “lubricant” in organizations that which makes the interactions in an organization smoother and help the “gears” work in an easier way. This also means that when the “lubricant” is missing in the organizations, much more energy will be necessary for the “gears” to work productively. This is because members of the organization may want to take some precautions to protect themselves from the people who may possibly take advantage of their vulnerability (Tschannen-Moran & Hoy, 1998).

Moreover, trust plays an important role in school effectiveness and improvement. Cunningham and Gresso emphasizes the place of trust in school effectiveness by calling it as the basis of school effectiveness (as cited in Tschannen-Moran & Hoy, 1998). Moreover, the importance of trust is emphasized once more in Bryk and Schneiders’ (2003) study. The authors assert that the teachers in a school become more open to novelties and trying new methods, if the relationship between the professionals is based on trust. To put it differently, productive relationships that are supported by trust among the professionals help the improvement in the schools.

2.5.1.2.1 Definitions of trust

Before moving on to collective trust on parents and students, which is the conceptualization that is used in academic optimism, it would be better to define what is meant by the word trust itself. It should be said that there is no consensus on the definition of trust in the literature. Definitions put forward by different authors has different dimensions. To start with, the first study to investigate trust experimentally (Deutsch, 1958) -as far as we know and as the author of the article asserts- emphasizes the behavioral side of the trust. Deutsch’s definition of trust (1958, p. 266) is as follows:

An individual may be said to have trust in the occurrence of an event if he expects its occurrence and his expectation leads to behavior which he perceives to have greater negative motivational consequences if the expectation is not confirmed than positive motivational consequences if it is confirmed.

As it can be seen from the definition provided above, trust is defined with the behavior of the other party and the motivational consequences about whether the expectation is fulfilled or not. Another influential study on trust by Dale Zand (1978), which is more recent when compared to Deutsch's work (1958), also defines trust in behavioral terms but with some differences.

Actions that (a) increase one's vulnerability, (b) to another whose behavior is not under one's control, (c) in a situation in which the penalty (disutility) one suffers if the other abuses that vulnerability is greater than the benefit (utility) one gains if the other does not abuse that vulnerability. (Zand, 1978, p. 230)

The definition of trust above, as it can be seen, gives importance to behavior of the other party and the consequences of what might happen whether the expectations are met or not like the previous definition provided. However, this one emphasizes the uncontrollability of the other party's behavior and the term vulnerability by specifically stating it in the definition.

In the late 1960s, Rotter (1967) becomes intrigued by trust and develops a scale to measure peoples' trust towards politicians, doctors etc. He also develops a definition of trust in his article but his definition is also a bit different from the others cited above. His definition touches more upon the communicative dimension of trust and contrary to the previous definitions, trust is defined more like an attitude instead of being a behavior. Rotter's definition of trust is as follows:

...an expectancy held by an individual or a group that the word, promise, verbal or written statement of another individual or group can be relied upon. (Rotter, 1967, p. 651)

In late 1970s, Frost and his colleagues (1978) investigate trust and some correlates of it. According to their study, trust is a judgement that one party has to the other party accordingly with the personal characteristics of the latter. Hence, trust, according to their definition, is the expectancy of a person that the other person or a group would behave in an altruistic and personally favorable manner. The authors claim that there are three component factors that help trust's existence: a situation of which the

consequences of it are unknown and they may end up being positive or negative, when there is some degree of dependency of the trusted party to another, and when there is a degree of faith in the trusted party that the s/he will be altruistic.

Moreover, Baier (1986) looked on the notion of trust from a philosophical perspective. It will not be a mistake to say that her description of trust is rather a result of logical reasoning. According to her, people cannot take care of all the things they value such as their health, their child's well-being etc. by themselves. Thus, they have to let others take care of the things they care about even if it means letting others get into positions that can cause harm to them. To put it differently, trust, according to Baier (1986), is letting others help take care of the things that you value by accepting but not expecting that the other party may take advantage of your belief.

In 1990's, Mishra (1996) put forward another definition of trust. When compared to the former ones that are described before, Mishra's definition comprises 4 dimensions of trust. According to him, the willingness to put oneself in an exposed position to another party by assuming that the other party is competent, open, concerned, and reliable is called trust.

As it can be seen, there are similarities and differences between definitions of trust; however, what is common to them, be it explicit or implicit in the definition, is vulnerability (Tschannen-Moran & Hoy, 1998). It can be said that vulnerability is in the nature of trust as it inherently yields the trusted party opportunities for taking advantage of the situation (Mishra, 1996). In terms of differences, earlier definitions of trust such as Deutsch's (1958) and Zand's (1978) definitions emphasized behavioral aspect of trust more than the later ones. Then, with Rotter's definition (1967) the communicative aspect of trust was emphasized more. Trust was more of a judgement in Frost et al's (1978) definition. According to Tschannen-Moran and Hoy (1998), different dimensions are added to the trust in the more recent definitions such as Baier's (1986) and Mishra's (1996) definitions.

Another point to be considered, trust has been investigated in organizational studies a lot but it has not received the attention it deserves in educational contexts (Hoy &

Tschannen-Moran, 1999; Tschannen-Moran & Hoy, 2000). Since this study investigates trust in an educational setting and adopts a more collectivistic approach the definitions provided before may be a bit irrelevant. Because of these, Tschannen-Moran & Hoys' (2000) more recent and more relevant definition that was put forward by an extensive multidisciplinary literature review is used in this study. Their definition conveyed that collective trust is a state in which members of a group are willing to make themselves vulnerable to others and take risks with full confidence that others will respond in positive ways, that is, with benevolence, reliability, competence, honesty, and openness.

As it can be seen, the definition puts forward five facets of trust based on the extensive review of the literature. A factor analytic study of trust shows that all the facets that are mentioned above covary and are part of the same construct (Hoy & Tschannen-Moran, 1999). The definitions of these faces are provided below.

2.5.1.2.2 Facets of trust

Benevolence. It is a person's belief in the other person/people that they will not take advantage of him/her despite when there is an opportunity for it. In other words, a person trusts others because s/he holds that the other party does not have harmful intentions (Hoy & Tschannen-Moran, 1999; Tschannen-Moran & Hoy, 2000). Baier (1986, p. 235) explains benevolence in a very brief manner: "accepted vulnerability to another's possible but not expected ill will."

Reliability. Reliability is the expectation of consistency from the other people in the organization. However, consistency in itself is not enough to define reliability because a person can be consistent in his/her malevolent behavior. Therefore, reliability can be defined as the mixture of benevolence and consistency. This way, a person expects the people in his/her organization to be consistent in their benevolent behavior, in other words, be reliable (Hoy & Tschannen-Moran, 1999; Tschannen-Moran & Hoy, 2000).

Competence. In order for some tasks to be completed, some sort of skills are necessary. In these circumstances, even if the team members are benevolent and reliable, one may

not trust them if they do not have the necessary skills. To illustrate, let's assume that a team of people are writing a report that necessitates high-level understanding of statistics. In this situation, one may not trust his/her teammates if they do not understand statistics even when they are very benevolent and reliable (Hoy & Tschannen-Moran, 1999; Tschannen-Moran & Hoy, 2000).

Honesty. Honesty can be accepted as the fundamental part of trust. It is generally the first thing that comes to our mind when we think about trust. Honesty is about integrity of a person. To put it differently, it is valid when what one says matches with what s/he does, and one does not distort the information to blame others and to protect oneself (Hoy & Tschannen-Moran, 1999; Tschannen-Moran & Hoy, 2000).

Openness. Openness deals with sharing of relevant information with people in an organization. To illustrate, if a person does not share a relevant information with the people in his/her organization, the other party may get suspicious and this may result in distrust. In other words, if a person in a group is not transparent about the relevant information and violate the openness facet of trust, this may in turn not only harm the trust in the organization but also carve up the way for distrust (Hoy, 2012; Hoy & Tschannen-Moran, 1999).

2.5.1.2.3 A relational construct: Trust

Trust has been shown in the literature as a relational phenomenon (Hoy, Gage, & Tarter, 2006; Hoy & Tschannen-Moran, 1999; Tschannen-Moran & Hoy, 2000). That is, there needs to be more than one party in trust because of its reciprocal nature. Looking from this perspective, it can be written that the literature on trust has perceived the notion of trust in different ways, conceptualizing it variously by the relationship between different elements of educational organizations. (eg. Hoy, Gage, et al., 2006; Hoy & Tschannen-Moran, 1999; Tschannen-Moran & Hoy, 2000; Tschannen-Moran, 2009). These different conceptualizations include, faculty trust in colleagues, faculty trust in the principle, student trust towards faculty members, trust among the students and faculty trust in clients.

Faculty trust in the colleagues deals with the beliefs of faculty members towards their colleges. This conceptualization of trust has been associated with school effectiveness by studies such as Hoy, Tarter, and Wilkowskie (1992) and Tarter, Sabo, and Hoy (1995) (as cited in Bevel & Mitchell, 2012). Faculty trust on the principal, on the other hand, is about the reciprocal relationship between the teachers and the school leader. Also, there are some studies that investigate the trust of students towards faculty members (e.g. Romero, 2015; Tschannen-Moran et al., 2013). Some of these studies study the student academic optimism in which all the three variables of academic optimism, academic emphasis, trust, and collective efficacy, are studied from students perspective (e.g. Tschannen-Moran et al., 2013). There are also studies investigating the trust among the students and how these have an impact on student achievement (e.g. Goddard, 2003).

On the other hand, of all the conceptualizations of trust that have been mentioned previously, only the faculty trust in clients is asserted to be having a significant positive impact on student achievement even after controlling for the SES (R. D. Goddard, Hoy, & Hoy, 2000; R. D. Goddard, Sweetland, & Hoy, 2000; Hoy, 2012). This conceptualization of trust deals with the confidence of faculty members towards both parents and students. Although parents and students may seem to be different parties, actually they represent one dimension as clients when looked at the results of statistical analyses conducted by Hoy and his colleagues (2012). Since this study is concerned with the direct effects of organizational features of schools on student achievement, faculty trust in clients conceptualization has been chosen to be included.

2.5.1.3 Collective efficacy

The term self-efficacy was first put forward by Bandura in 1977. Based on social cognitive theory, self-efficacy can be defined as one's belief in himself or herself that s/he has what it takes to accomplish a task or a personal goal (Bandura, 1977, 1993; R. D. Goddard, Hoy, & Hoy, 2004). Bandura asserts that efficacy beliefs of a person has an impact on the performance displayed. People may perform quite differently – from very poor levels to outstanding levels- accordingly with their efficacy beliefs

regardless of their knowledge and skills. In addition, self-efficacy beliefs does not necessarily be completely true. People may underestimate or overestimate their ability. And in turn, the course of action they take is affected by the way they see their ability. An ability, after all, can be as good as its actualization and people execute their ability accordingly with their beliefs on how well they will execute it, as Bandura (1997) puts in his article. In most cases, however, slightly overestimating one's actual capability delivers the best performance (R. D. Goddard et al., 2004).

Furthermore, efficacy beliefs are context/task specific. To illustrate a person may feel very competent in one specific task but this does not mean that s/he perceives him/herself that much efficacious in another task. Efficacy beliefs also involve a person's future expectations concerning the outcome of their performance. This notion is important because if a person expects to be successful in a specific context in the future, this may help him/her be resilient and put substantial effort facing challenges and difficulties. In his seminal article, Bandura (1977) dwells on 4 major sources of efficacy expectations.

2.5.1.3.1 Sources of efficacy expectations

Bandura (1977, 1997) put forward four sources of efficacy beliefs: performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal. Performance accomplishments are about mastery history of a person on a specific task. The more a person has achieved a task before, the more they will feel efficacious in that task. Also, the reverse is true, too. If a person fails again and again, that person will feel low efficacy towards that specific task. On the other hand, Bandura does acknowledge that succeeding in a particular task after repeated failures can increase a person's efficacy feelings. Further, Bandura (1977) puts forward that increased efficacy beliefs after repeated successes in a particular task may eventually get transferred into other tasks. Moreover, these sources of efficacy beliefs are not only important for individuals but also for groups at a collective level of efficacy (R. D. Goddard et al., 2004; R. D. Goddard, Hoy, et al., 2000). To illustrate, collective

efficacy beliefs could be developed after teachers collectively experience success. Also, they, as a group, can be discouraged after a collective failure on a specific task.

Performance accomplishments, on the other hand, is not the only source of efficacy expectations. Vicarious experiences is another source of efficacy beliefs. It is about a person's/a group's increased efficacy expectations towards a task after observing other person's/peoples' achievement(s) of a task. However, this type of experience, as Bandura reports, is not as strong as one's own personal accomplishments and thus, more vulnerable to change since it depends on other person's or a group of peoples' successes.

Verbal persuasion is another source that has an impact on a person's/group's efficacy expectations of a specific task. It is basically a person's or a group's such as teachers of a school increased efficacy beliefs toward a task when they are verbally persuaded that they can accomplish that task. This verbal persuasion can be done by the people around, friends or the person him/herself. Alternatively, a feedback or an argument from other professionals can persuade teachers of a school, too. This source of efficacy expectation is weaker than both performance accomplishments and vicarious experience since it can easily lose its effectiveness after repeated unsuccessful attempts.

The last major source of efficacy expectations that was reported by Bandura (1977) is emotional arousal. Certain tasks may have physiological symptoms such as high arousal states or high levels of sweating on certain people. This may be seen as signs of incompetency by people. This, in turn, may result in decreasing efficacy expectations by those people. Bandura also mentions that past experiences of negative emotional arousal may end up in increased levels of anxiety because of conjuring up fear-provoking thoughts about incompetence. Moreover, this source of efficacy expectation can be applied to groups of people, as well. To illustrate, schools may have their own level of coping with stressful and crisis situations. While some schools that have higher levels of collective efficacy beliefs may be good at coping with these negative

situations, others with lower levels of collective efficacy beliefs may not be as good in resolving hard situations (R. D. Goddard, Hoy, et al., 2000).

2.5.1.3.2 Collective efficacy in educational context

After conducting numerous studies, Bandura gets intrigued with the implications of social cognitive theory in educational context. In 1993, he even provides an empirical evidence on how efficacy beliefs of the teachers in a school can make a difference in school outcomes. Bandura asserts in his publications (e.g. 1993, 1997) that schools are mediumly interdependent organizations and in this type of organizations the members of the organization are affected by each other. Thus, putting forward the term collective efficacy with the contention that the sum of the individual efficacy beliefs is not equal to the total efficacy belief in interdependent organizations. In other words, collective efficacy is different from individual efficacy beliefs in that it is concerned with the group's beliefs about its performance as a whole in interdependent organizations rather than individual performance judgements. Moreover, to Bandura, collective efficacy is a notion worth studying on and learning more (as cited in Sørli & Torsheim, 2011) because of several reasons. One reason is that numerous problems faced through life requires more than one people to work together to resolve them. Another reason is that many positive results, be it highly productive manufacturing places or effective schools, can be attained more efficiently by collective work than individual effort. It is presumed that the decisions and actions by individuals or organizations are effected a lot by this notion of collective competence to reach desired goals.

After Bandura's (1993) work on collective efficacy beliefs in educational context, educational researchers such as Hoy and Goddard becomes interested in the notion of collective efficacy (Hoy, 2012). For example, based on the contentions of Bandura's works, Goddard (2000) put forward his own definition. In his article, Goddard (2000) puts forward that collective efficacy is the beliefs of teachers in a school that their collective efforts can make a positive difference in the organization's effectiveness.

Furthermore, in 2001, Goddard conducted a study examining the relationship between collective efficacy and student achievement. There were three main purposes of the research Goddard (2001) conducted. The first purpose was to test whether mastery experience is related to collective efficacy. According to the author this was important since mastery experience was put forward to be the major source of efficacy expectations (Bandura, 1977, 1997) and the author wanted to test whether this was valid for collective efficacy, too. The second purpose of the study was to examine the relationship between collective efficacy and the differences between schools in student achievement. And the third purpose of the study was to test whether the group consensus of collective efficacy is related to student achievement or not. The author used multilevel modeling as the analytical technique for the study. The analysis of the study were conducted with a random sample of 47 schools that were drawn from 91 elementary schools within one large urban Midwestern school district. The teachers filled in 21-item Collective Efficacy Scale and the responds were aggregated to school level. For the student level, a mandatory, statewide-administered test scores of the students enrolled in these 47 schools were collected. The results of the study provided several implications. First of all, the results were in line with the social cognitive theory in that mastery experience significantly predicted the differences between schools in the collective efficacy beliefs of teachers. Secondly, the results also indicated a significant relationship among collective efficacy perceptions of teachers and the differences between schools in student achievement. Lastly, the study results yielded no significance for the predictive relationship of the consensus among teachers in collective efficacy and the student achievement.

Another study by Sørli and Torsheim (2011) investigated the relevance of collective efficacy to student problem behavior in schools. The authors hypothesized that perceived collective efficacy is a stable school-level feature that has a significant influence on problem behavior of students in school. Their hypothesis also included that these two notions are negatively related in that the more the collective efficacy of teachers, the less the problem behaviors of the students in schools. To test their hypothesis, the researchers collected data from 48 elementary schools and 1100

teachers. The questionnaires were implemented twice in the data collection procedure. The time interval between the first and the second questionnaire was 6 months. After data collection, the authors conducted a multilevel regression analysis to test the relationship between collective efficacy and problem behavior. The results supported the hypothesis of the authors that the reported increase in perceived collective efficacy predicted the decrease in the reported problem behavior. The inverse was also true: the increase in the reported problem behavior predicted the decrease in the reported collective efficacy beliefs of teacher. Therefore, the authors concluded that collective efficacy and student problem behavior are reciprocally related in an inverse manner. Although this study does not deal with the relationship between student achievement and collective efficacy, it was included here because decreasing student problem behavior can also be accepted as school outcome variable and the fact that collective efficacy was found to be having a significant inverse predictive relationship with problem behavior hints that it might be effective in the increase of student achievement, too.

Further, as it is discussed under the enabling school structure section, too, Tarter and Hoy (2004) studied the impact of collective efficacy on student achievement and culture of trust along with impacts of other variables. The data was collected from a nonrandomly chosen sample of 145 elementary schools. According to the multiple regression analyses results, collective efficacy was shown to predict both student achievement and culture of trust significantly. The authors noted that only enabling school structure and collective efficacy were found to have a significant independent relationship on student achievement.

2.5.2 Studies on academic optimism and student achievement

Some literature on the variables of academic optimism is already provided above in the subheadings devoted for the dimensions of academic optimism variable. This subheading, on the other hand, provides studies that investigated all the dimensions of academic optimism together. There have been numerous studies of academic optimism

in the literature relating it to different variables. However, in this review, only the ones that relate academic optimism to student output variables are dwelled on.

To start with, Hoy, Tarter and Woolfolk Hoy (2006a) conducted a study to identify the newly developed construct of academic optimism and to test if it explained learning outcomes of students whilst accounting for urbanicity, socio-economic status and previous achievement. The study results revealed that academic optimism was a latent variable that is composed of academic emphasis, trust in clients, and collective efficacy. Moreover, the authors found out that academic optimism had a significant predictive relationship with student achievement even after controlling for SES, urbanicity and prior achievement.

Furthermore, McGuigan and Hoy (2006) explored the relationship between academic optimism, enabling school structure and student achievement. Using multiple regression to test their hypotheses, the researchers found out that academic optimism was effective in promoting math and reading achievement regardless of SES although SES was found to be positively related to student achievement, too. Moreover, study results also showed that enabling structure had a positive and significant relationship with academic optimism; hence, the variable was found to be having an indirect positive relationship with student achievement.

A year after the first articles asserting the existence of a latent variable called academic optimism and its effects on student achievement (such as Hoy, Tarter, et al., 2006a; Hoy, Tarter, & Hoy, 2006b; McGuigan & Hoy, 2006), Smith and Hoy (2007) conducted another study with the purposes of testing and showing the construct of academic optimism and to investigate its effects on student achievement in elementary schools in Texas after controlling for school size and SES. The study results, supported its preceding studies in that academic optimism was demonstrated as a latent construct that included the variables of academic optimism, collective efficacy, and trust in clients. Also, academic optimism was found to have a significant effect on learning outcomes even after controlling for SES and school size

Additionally, as it is briefly discussed under enabling school structure section, Wu, Hoy and Tarter (2013) replicated McGuian and Hoys' (2006) model in Taiwan culture and expanded it by inserting the variable of collective responsibility to the model. Structural equation modeling results supported McGuian and Hoys' (2006) and Hoy, Tarter and Woolfolk Hoys' (2006a) studies in that academic optimism had a significant effect on learning outcomes. Further, results revealed that enabling school structure and collective responsibility affected student achievement through academic optimism.

Moreover, Bevel and Mitchell (2012) investigated the relationship between academic optimism and elementary reading achievement. The authors hypothesized that reading achievement is positively correlated and predicted by academic optimism. To test their hypothesis, the authors collected data from a sample of convenience of 29 schools. The data on academic optimism were collected through surveys that were implemented to teachers and the reading achievement data was obtained from Alabama Reading and Mathematics Test, a state-implemented, criterion-referenced test given to all students in Grades 3 to 8. The design of the study included both correlation and hierarchical linear regression. The results of the study showed positive correlation between student achievement and collective efficacy, faculty trust in clients, and academic optimism, which was the weakest among them. Also, academic optimism, the total value including all the three components, had a significant effect on reading achievement in the hierarchical linear regression and it accounted for approximately 18% of the reading achievement variation.

Another study by Boonen, Pinxten, Van Damme, and Onghena (2014) tested the latent structure of academic optimism and looked into its relationship between student achievement in Belgium. Data was collected from 1375 staff members and 3538 students within 117 schools to conduct to conduct multilevel analyses. The analysis results showed that academic optimism, collective efficacy, and faculty trust in clients did make up a latent variable called academic optimism. Study results also revealed positive associations between reading and math achievement, and academic optimism in fifth grade pupils. Another finding of the study was that school level SES variable

was not directly related to both reading and math achievement but an indirect link was found through academic optimism.

Additionally, Tschannen-Moran, Bankole, Mitchell, and Moore (2013) proposed student academic optimism a new construct that looks at the original one from a different perspective. Student academic optimism construct was proposed to be made up student trust in teachers, student perceptions of academic press, and student identification with school. In their study, Tschannen-Moran et al (2013) conducted analyses both to test if the above-mentioned variables formed a latent construct called student academic optimism and to investigate its impact on student achievement. The results of the study suggested that the three variables did form a latent construct student academic optimism. Also, student academic optimism had a direct significant influence on student achievement even after controlling for SES. Together with SES, the variable proposed explained 67% of the variation in student achievement.

Furthermore, Kirby and DiPaola (2011) investigated academic optimism, community engagement, and student achievement in urban primary schools. To conduct the study, Kirby and DiPaola (2011) collected data from 35 urban primary schools from a district in USA. The results revealed that community engagement and academic optimism had a positive relationship with student learning outcomes. Moreover, three dimensions of academic optimism; namely, academic emphasis, collective efficacy and trust in clients were positively related to the variable of community engagement in urban elementary schools. Lastly, regression results suggested that 66% of the variation in student achievement was explained by the three dimensions of academic optimism and community engagement. On the other hand, contrary to the studies cited above, not all the variables of academic optimism was found to have a significant independent effect on student achievement. The only variable that had significant independent effect on student achievement was trust in clients. Thus, the researchers conducted another regression analysis that only included trust in clients and student achievement as the outcome variable and found out that trust in clients explained 62% of the variation by itself.

Moreover, in his thesis work, Malloy (2012) studied the mediating role of academic optimism between distributed leadership and student achievement. To conduct the analysis of the study, questionnaires were collected from 2122 teachers from 113 schools. The author reported that aligned form of distributed leadership was significantly related to academic optimism and that it had similar effects on the three dimensions of academic optimism. On the other hand, similar to what Kirby and Dipaolas' (2011) found in their study, Malloy (2012) found out that academic optimism did not have a significant direct influence on student achievement. Only academic emphasis variable had a direct significant relationship with student achievement. As a result, it was concluded that academic optimism did not play a mediating role between distributed leadership and student achievement.

Shortly, academic optimism, in the literature, is generally shown to be effective on student achievement although there are studies having implications that some of its dimensions may not be significantly related to student achievement. Based on the literature that academic optimism is an influential variable on student achievement, testing how it interacts with other key school level variables to affect student achievement when analyzed simultaneously would be a significant task. Hence, including this variable to the model proposed by this study can be considered as a meaningful decision.

2.6 Summary of the Literature Review

Based on this review of the literature, it can be inferred that studies proposing a model for educational effectiveness that put student achievement into central position are limited, not to mention that they are almost nonexistent among the studies conducted in Turkey. Hence, it can be argued that there is a gap in the literature in this sense as it is specified above and throughout this review of literature. To provide a response to this gap, this study included regardfully chosen school level variables, employed a multilevel methodology and emphasized student achievement by incorporating it as the outcome variable.

One of the meticulously chosen school level variables for this study was distributed leadership. From the review of the literature, including this variable in the model was important since it can be argued that literature on the relationship between distributed leadership and student achievement is still in its infancy stage and that studies employing inferential methodologies to investigate this relationship are only emerging newly. Moreover, incorporating variables for both formal and informal structures in schools aside a leadership variable was important to provide a holistic approach as a model to support student achievement and also to fill a gap in the literature that mostly includes studies that either deal with informal part of the schools or the formal side of the schools. Teacher collaboration as a conceptualization for the informal structure of schools tended to be regarded as a positive feature for schools in the literature; however, its impact on the effectiveness schools was mixed. Thus, incorporating it to the effectiveness model offered by this study was important to test if it lives up to these expectations. Moreover, enabling school structure as a conceptualization for the formal structure in the schools have been studied with other school level features in the literature and it has been found to have promising implications for school effectiveness. On the other hand, studies investigating its direct effect on student achievement have been limited in number. Therefore, testing its effect on student achievement within the model proposed can be considered as a valid decision.

Furthermore, the last variable included in the study was academic optimism. Most of the studies in the literature dealing with academic optimism and student achievement showed a positive and significant relationship between the two. Hence, this study tested its relationship to student achievement once again and this time in a model with other key school level variables simultaneously. Adding the dimensions of academic optimism to the model was important also for the reasons of providing a holistic approach to contribute to student achievement. Eventually, the effectiveness model proposed by this study accounted for the impact of the key variables of leadership, formal and informal structures and climate in public schools of Turkey on student achievement.

CHAPTER III

METHOD

A detailed information about the methodological procedures is presented in this chapter. First of all, design of the research is dwelled on. Then, a detailed information on sample selection procedures and participants are provided. Moreover, in the instrumentation part, the instruments used in the study are explained in detail. Further, data collection procedures and data analysis are dwelled on in detail, as well. Lastly, possible limitations of the study is listed and dwelled on in the last subsection of this chapter.

3.1 Design of the Study

This study was conceived as an associational study. It investigated the relationships between student achievement and organizational features in educational organizations; namely, distributed leadership, the informal structure of schools which is conceptualized here as teacher collaboration, the formal structure of a school which is conceptualized as enabling school structure, and academic optimism as the climate variable. Because the present study examined the relationships between different variables, the study was designed as a correlational study. Correlational design was appropriate for this study since it allows researchers to investigate the relationship between two or more quantitative variables. Moreover, this research design is useful when there is no intention of manipulating variables by researchers (Fraenkel, Wallen, & Hyun, 2012). Hierarchical Linear Modeling (HLM) was selected as the correlational analysis technique for the study because of the several advantages it provides in educational research among other techniques, among the most important ones are being able to account for the nested structure of educational structures in the analysis and being able to differentiate between and within school variation and thus, providing more valid results (Raudenbush & Bryk, 2002).

3.2 Sampling

The data for the study were collected from the province of Adana. Adana is one of the major provinces in the southern Turkey. Having more than 2 million population, it is the sixth most populated province of Turkey (TUIK, 2015). According to the information received from the official website of Adana Provincial Directorate of National Education, there are a total number of 1642 schools in Adana (MoNE, 2015). Out of 1642 schools in Adana, cluster random sampling method was employed to select 62 primary and middle schools from the central districts; namely, Çukurova and Seyhan. The permission document from the Adana Provincial Directorate of National Education for this 62 randomly selected schools is provided in Appendix B.

Moreover, during the data collection process, it was observed that the selected the 62 schools will not suffice for the study because of several reasons. One reason was that some of the schools that were listed on the official website and selected as a result of the random selection, were observed to have been shut down long before they were visited for the study. There was no way this could have been anticipated beforehand since those schools were listed as active schools by the website of Provincial Directorate of National Education. Another reason was that some of the schools in the randomly selected sample was too small to be included in our multilevel modeling analysis. Our decision rule to include schools into the final analysis was that each school had 4 or more school level respondents, similar to the criterion used by Goddard, Y.L., Goddard, R.D., and Tschannen-Moran (2007). Some of the schools included only 1 or 2 teachers and since the questionnaire data of all the teachers of a school were planned to be aggregated to school level, that small number would affect the study results adversely. To illustrate, the only teacher of a school may dislike the school principal because of personal reasons even when the principal is a good one and this would have a negative effect on the results. Also, the data of organizational features such as teacher collaboration would not be available from these schools, too. Another reason why the selected schools were not found to be sufficient for the study was that some of the school principals did not want to share the GPA values of the students even though GPA values were asked without any names or any other

information that may reveal any student identity. All the data collected were anonymous. More details on the data collection procedure is given under the data collection process section. Because of the reasons mentioned above, more schools were necessary to conduct the study as care was given to collect data from more than 30 schools to be able to obtain the robust results provided by the HLM7 software. Hence, Adana Provincial Directorate of National Education were applied to get permission to conduct the study in the schools of Sarıçam, another district of Adana, too. The permission was granted and the document received for this application can be found in Appendix C. Table 3.1 provided below denotes the final number of selected schools regarding their district and schooling levels.

Table 3.1

Numbers of the Selected Schools regarding their District and Schooling Levels

School Districts	Number of Primary Schools	Number of Middle Schools
Seyhan	28	19
Çukurova	10	5
Sarıçam	7	10
Total	45	34

3.2.1 Participants

Utilizing a multilevel modeling technique, this study had two participant levels. Level 2 participants of the study included teachers from the sampled schools. All the questionnaire data collected from this level were aggregated to school level. Level 2 participants of the study can also be called as school level participants. Level 1 included student level participants of the study. It included individual student GPAs studying in the participating schools. A detailed description of both level 1 and level 2 participants are provided below.

3.2.1.1 School level participants

In the scope of the study, 535 questionnaires were collected from the teachers in the selected schools. However, only 492 of the teacher participants responded more than 50% of the scales or filled in the forms with an appropriate manner; that is, the cases which were not marked with only the highest or the lowest in the Likert scales regardless of the reverse items, were also excluded from the study. The procedure of missing value analysis is explained in detail under the “Results” section.

Of these 492 teachers participants, 63.8% of them were female ($n = 314$), 35.8% of them were male ($n = 176$), and 2 participants left gender item blank. Moreover, the mean age of the participants were 39 ($SD = 8.03$) with the lowest being 23 and the highest being 60. The mean experience levels of teachers were 15.72 ($SD = 7.93$) with the lowest being 0 and the highest being 38. In other words, on average, the teacher participants had worked for 15.72 years as a teacher. When the mean experience value is subtracted from the mean age, it can be said that the starting age of the participant teachers was around 23-24 on average. The distribution of the teacher participants according to their gender, age, and experience can be seen in the table below.

Table 3.2

Demographic Characteristics of the Teacher Participants

	<i>f</i>	<i>%</i>	<i>M</i>	<i>SD</i>
Gender				
Male	176	35.8		
Female	314	63.8		
Age			39	8.03
Experience			15.72	7.93

These questionnaires were collected from 49 primary and middle schools from the 3 districts of the province of Adana that were dwelled on in the previous section. Of these schools, there were 25 primary schools and 24 middle schools. However, only 40 schools were included in the main analysis since the GPA data of the students were unavailable for the excluded 9 schools. Of these 9 schools, 1 school refused to share

the anonymous student GPA data, 5 schools could not share the anonymous GPA data since they could not get into their computer system because of a computer system problem, 2 schools gave only the school average value of student GPA's because of a misunderstanding, and 1 school was excluded because of being too small for a multilevel modeling analysis (1 voluntary participant from a total of 3 teachers). Because no GPA data was available for these 9 schools, a total of 66 surveys were automatically eliminated from the analysis by HLM7 software since there were no GPA data to link them with. Eventually, there were 426 questionnaires and 40 schools, 16 primary and 24 middle schools, included in the hierarchical linear model.

Also, it is worth noting that the present study included only primary and middle schools. High schools were not in the target population of this study. This was important because high schools in Turkey have different focuses depending on the professions they are preparing their students for. As a result of this, GPA values collected from high schools may have different implications and this would be a severe limitation to the study since GPA values of students play an important role in the main analysis. Moreover, limiting the study to elementary and middle schools helped control for the organizational structure of the schools, as well (R. D. Goddard, 2003).

3.2.1.2 Student level participants

Till now in this section, only the level 2 participants, teachers in schools, of the study are dwelled on. Another level of the study, called as level 1, included the anonymous GPA values of the students from the 40 schools that the questionnaires were collected from. Each and every students' GPA' was collected anonymously from the middle schools visited for the study. However, for the primary schools, only the 4th grade students' GPA were collected since the first three grades in primary schools are not graded in Turkish education system. There were no missing GPA data of any student at this level since the schools either shared all the anonymous GPA values of their students or did not share any of them in which case they were excluded from the main study. There were 23.053 participants at level 1. The table below shows both level 1 (students) and level 2 (teachers) participants with regard to their schools.

Table 3.3

Schools with Regard to Number of Student and Teacher Participants

School ID	Number of Students (Level 1)	Number of Teachers (Level 2)
3	226	5
5	179	6
7	706	11
8	724	7
10	1132	20
11	231	9
14	1110	23
16	104	6
20	206	8
22	32	4
24	245	15
26	710	23
28	357	12
32	1178	14
33	1081	11
36	198	7
48	1020	18
49	115	9
54	314	5
55	93	7
56	431	11
58	1615	13
59	459	9
60	170	4
63	2145	29
64	49	11
65	1209	7
66	201	10
67	204	7
68	525	6
71	244	6
73	747	11
75	526	7

Table 3.3 (continued)

School ID	Number of Students (Level 1)	Number of Teachers (Level 2)
76	500	9
77	582	12
78	719	14
79	58	8
80	200	7
81	658	11
82	1850	14
Total	23053	426

3.3 Data Collection Procedure

Before going on to field for data collection, permission of the Middle East Technical University Human Subjects Ethics Committee was received. The permission document can be found in Appendix A. After this, permission to conduct research in the schools of Adana was received from the relevant Provincial Directorate of National Education. The two permission documents received from Adana Provincial Directorate of National Education are provided in Appendices B and C. Subsequently, the researcher started to visit the schools that were previously-chosen by the school list that was given to Adana Provincial Directorate of National Education along with other documents. There were only one data collector to avoid possible data collector differences/biases in the study.

The questionnaire used in the data collection procedure was printed on a single, double-sided A-4 paper. The questionnaire started with a section on demographic characteristics. Demographic values section was followed by Distributed Leadership scale, Teacher Collaboration scale, Enabling School Structure scale, and Academic Optimism scale, respectively. More details on the scales used in the questionnaire are provided in the instrumentation section.

In each school visited, the researcher first went to the principal's room to inform him/her about the purposes of the study and to show the permission documents. Then, the principal were asked for his/her collaboration. During this small meeting with the principal, the researcher told the principals that anonymous student GPA's were necessary for the study to reach its goals. The researcher did not proceed to data collection in a school if the principal refused to collaborate and provide anonymous GPA values of the students enrolled in their school. This was important since the aim of the present study was to investigate the relationship between student achievement and various organizational features. Only one school refused to hand in the anonymous GPA values among the selected schools. The school principals that accepted to collaborate retrieved the previous semester's GPA data of the students enrolled in their school using the centralized computer system of Ministry of National Education through the Internet. Then, they deleted all the personal data from the retrieved file. After this, they delivered the final version of the file to the researcher.

After obtaining the anonymous GPA values, the researcher proceeded with data collection and went to teachers' lounge. Before distributing the questionnaires to the teachers, the purpose of the study was explained to them and they were assured that no personal information that may reveal their identity was collected in the study. After this, the questionnaires were distributed to the teachers who voluntarily accepted to participate in the study. Since the approximate time required for the questionnaire to be completely filled in was 10 minutes, most of the teachers filled in the questionnaires during the break time. The researcher waited for the next break time if a teacher asked so. The completed questionnaires were randomly put into a large bag that the researcher carried with him to ensure the confidentiality of the study.

3.4 Instrumentation

The four data collection instruments used in this study were Distributed Leadership Scale developed by Özer and Beycioğlu (2013), Teacher Collaboration scale developed by Demir (2014), Enabling School Structure first developed by Hoy and Sweetland (2001) and adapted to Turkish by Özer and Dönmez (2013), and School's

Academic Optimism Scale developed by Hoy and his colleagues (2006a, 2006b) and adapted to Turkish by Çoban and Demirtaş (2011). In order to collect data about the demographics of the participants a form was included in the questionnaire that comprised items on gender, age, experience, and schooling level. Also, to ensure that the participation to the study is completely on voluntary basis an informed consent form has been given to the teachers (see Appendix D). This way they had a chance to read a brief summary of the study before filling in the questionnaires and told once more that the information collected will only be used for academic purposes and will not be shared with any other person.

3.4.1 Distributed Leadership Scale

Distributed Leadership Scale was used in this study to measure the distribution level of leadership in schools. The scale was developed by Özer and Beycioğlu (2013). The scale is made up of 10 items and a single dimension. All the items in the scale are 5-point Likert type items, 1 being “never” to 5 being “always”. The scale measures distribution of leadership in schools through teachers’ perception of leadership in their school. Sample items from the scale include “Our principal includes other stakeholders such as teachers, students and parents in decision-making processes”; “Active participation of teachers to every change and improvement efforts in the school is ensured”.

The data for the scale development was collected from the city of Adıyaman in Turkey from 157 teacher volunteers. The authors did both exploratory and confirmatory factor analyses. As a result of the exploratory factor analysis, the initial 31-item testing scale was reduced to 10 items, its present form, accordingly with the item loadings. The authors also did a confirmatory factor analysis. The results of the confirmatory factor analysis confirmed that the items are part of a single factor. Furthermore, in their article, Özer and Beycioğlu (2013) reported Cronbach-Alpha reliability coefficient of the scale to be .92. Also, to test the test-retest score of the developed scale the authors applied the same 10-item instrument again with a 9-day-period. The test-retest reliability score was reported to be .82. The scale’s Cronbach-Alpha reliability

coefficient was calculated for the present study, too, and was found to be .94. In addition, a measurement model analysis was conducted as part of this study to examine the scale's model fit. The results of this analysis is reported in more detail in the "Results" section.

3.4.2 Teacher Collaboration Subscale of Teacher Leadership Culture Scale

Teacher Collaboration subscale of Teacher Leadership Culture Scale developed by Demir (2014) was used to measure the social interaction among teachers in a school. For the development of the scale, data gathered from 347 teachers from the primary schools in the city of Burdur. To investigate the validity of the scale the author conducted a second-order hierarchical factor analysis. The author reported that the results of the analysis supported the three-factor structure of the scale: 8 items for teacher collaboration, 10 items for managerial support, and 9 items for supportive work environment. The Cronbach-Alpha and composite reliability value of all constructs exhibited a value greater than .70 which is a common lower limit for research (Demir, 2014). For the purposes of this study, however, only teacher collaboration subscale of the scale developed by Demir (2014) was used. The Cronbach-Alpha value of the teacher collaboration subscale for the present study was calculated to be .91.

The subscale used in the present study consisted of 8 Likert-type items. The items ranged from 1 being "strongly disagree" to 5 being "strongly agree". Sample items from the scale include "Teachers in this school share course materials", "Teachers in this school talk about how to do what is best for the students".

3.4.3 Enabling School Structure Scale

To measure the bureaucratic structure of the schools the Turkish adaptation of Enabling School Structure Scale was used. The scale was originally constructed by Hoy and Sweetland (Hoy & Sweetland, 2001). It was constructed as a 5-point Likert type scale in which the teachers were asked to describe the situation in their school through the items ranging from 1 being "never" to 5 bring "always". According to the

exploratory factor analysis the authors did with teachers from 116 different schools, the scale was made up of 12 items and unitary bipolar factor ranging from the continuum of enabling structure on the one side and hindering structure on the other side. The scale demonstrated a strong reliability coefficient ($\alpha = .96$).

The Turkish adaptation of Enabling School Structure Scale (ESS) used in this study was performed by Özer and Dönmez (2013). This version of the scale was developed by gathering data from 1018 teachers from 75 different primary schools located in the city of Malatya. According to the results of the reliability and validity tests conducted by the authors, the Turkish form of ESS is a two-factor scale contrary to its original form. The two factors are enabling bureaucracy and coercive bureaucracy. The factor loading of the enabling and coercive bureaucracy ranged between .557-.832 and .485-.785, respectively. Hence, the end result was a 12-item and a two-factor scale with an estimated Cronbach alpha results of .806 and .774 for enabling and hindering bureaucracy, respectively. The Turkish adaptation of the scale also comprised 5-point Likert type scales. Sample items from the scale include “Administrative hierarchy helps the school to achieve its mission” for enabling bureaucracy and “Administrative hierarchy hinders student achievement” for hindering bureaucracy.

Moreover, Cronbach alpha values of the scale was calculated for the purposes of this study, as well. The values were found to be .92 and .89 for enabling and hindering bureaucracy, respectively. To test the model fit, a measurement model was conducted, too. More details on the measurement model results can be found in the “Results” section.

3.4.4 Schools’ Academic Optimism Scale

To measure the academic optimism level of schools, Schools’ Academic Optimism Scale adapted by Çoban and Demirtaş (2011) from the original scale developed by Hoy, Tarter and Woolfolk-Hoy (2006a) was used. The original form of the scale is composed of three subscales: an 8-item academic emphasis subscale, 12-item collective efficacy subscale, and 10-item faculty trust in clients (students and parents) subscale. The original Collective Efficacy and Faculty Trust on Clients Scales

consisted of 6-point Likert type items ranging from “strongly disagree” as 1 to “strongly agree” as 6. The original Academic Emphasis Scale was constructed as 4-point Likert scale. The alpha coefficient of the English version of the scales were reported to be .83, .91, and .94 for Academic Emphasis, Collective Efficacy, and Faculty Trust in Clients, respectively.

In the adaptation process to Turkish, Çoban and Demirtaş (2011) reported in their article that the items were translated into Turkish first and back translation method was used to check the accuracy of the translation. Further, a preliminary analysis was conducted by 98 teachers. Before conducting factor analysis test, Kaiser-Meyer-Olkin and Bartlett tests were conducted to check if the data is appropriate for factor analysis test. The results of the tests were positive and hence, the authors conducted factor analysis test. Similar to its original form, Turkish form of the scale comprised of three subscales. On the other hand, 11 items were excluded from the Turkish version of the scale since either they had low loading values or their content is explained by other items. Also, it should be noted that the subscale for the collective efficacy was made up of reversed items while the items of the other two subscales were not. Sample items of the adapted scale include “The teachers in this school do not have the ability to deal with discipline problems” (reverse scored, a sample for collective efficacy factor), “The teachers in this school believe that parents will support their efforts” (a sample for faculty trust in clients), “The students here respect their peers who have high grades” (a sample for academic emphasis). Briefly, the end result was a 19-item scale that has 5 point Likert-type items with Cronbach reliability scores of .68, .89, and .86 for collective efficacy, faculty trust in clients and academic emphasis, respectively. Furthermore, Cronbach reliability scores were calculated for the present study, as well. The values were found to be .71, .85, and .89 for collective efficacy, faculty trust in clients and academic emphasis, respectively.

3.5 Data Analysis

The purpose of this study was to examine the relationship between organization level variables; namely, distributed leadership, teacher collaboration, bureaucratic structure,

and academic optimism levels of schools, and an individual, student-level variable; namely, grade-point average values of students. Therefore, this study included two levels of data: level 1 being individual student GPA's and level 2 being questionnaires filled in by teachers that are grouped by schools. Because of this, multilevel modeling was the most appropriate analysis technique for the study. To conduct multilevel modeling, Hierarchical Linear Modeling 7 (HLM7) software (Raudenbush & Bryk, 2002) was used. Besides, apart from having the capability to incorporate different levels to analysis, its capability to distinguish within and between school variances was another reason this technique was selected. This capability is important because if a study cannot distinguish the difference among within and between school variances, there is a risk of that study overemphasizing or deemphasizing effects of variables such as leadership (Hallinger & Heck, 1998). You can find below the main steps of the HLM7 analysis procedure. Also, it should be noted that to check the health of the data, bivariate correlations were calculated and missing value and measurement model analyses were conducted before conducting the HLM analyses.

The first step of the HLM7 analysis included the preparation of two separate SPSS files. One file included the level 2 variables and the other file included the level 1 variable. These two files included a shared variable, aka ID variable. Using this variable, HLM7 software was able to link the data in the separate SPSS files.

In the second step, HLM7 software was used to create the MDM file that combines the two SPSS files prepared for the analysis. For the MDM creation procedure, structure of the data was chosen as "cross sectional". This is the option chosen for the analysis of persons within groups. For the missing data section, no missing data option was checked since there were no missing data at level 1 in the present study.

The third step after creating the MDM file was to run a totally unconditional model with the HLM7 program. Totally unconditional model is suggested to be run before the main analyses by Raudenbush, Bryk and their colleagues (Raudenbush & Bryk, 2002; Raudenbush, Bryk, Cheong, Congdon, & Toit, 2011). It is a model with no predictors neither at level 1 or level 2. Through this way, the program helps researcher

distinguish within and between variation components. Looking at the data produced by this model, the researcher can have preliminary ideas about where the main variation of the data is and what can be done next (Nezlek, 2011, 2012). Totally unconditional model is the simplest analysis that can be done with HLM7 and it is basically no different than a one-way ANOVA.

The equations for the totally unconditional model is provided below:

$$\text{Student level:} \quad Y_{ij}(\text{GPA}) = \beta_{0j} + r_{ij} \quad (3.1)$$

$$\text{School level:} \quad \beta_{0j} = \gamma_{00} + u_{0j} \quad (3.2)$$

These equations can be combined as below:

$$Y_{ij}(\text{GPA}) = \gamma_{00} + u_{0j} + r_{ij} \quad (3.3)$$

In this equation;

i stands for a student,

j stands for a school,

$Y_{ij}(\text{GPA})$ stands for the GPA value of student i in school j ,

β_{0j} stands for the group mean of GPA values school j ,

γ_{00} stands for the grand mean of GPA values,

r_{ij} stands for random effect in the student level,

u_{0j} stands for random effect in school level.

As it can be seen above, this is a random-effects models. It does not explain the fixed effects behind the variance. However, it does show the variance component in the two levels separately. In their book, Raudenbush and Bryk (2002) depicts the total variation with the equation 3.4 below.

$$\text{Var}(Y_{ij}) = \text{Var}(u_{0j} + r_{ij}) = \sigma^2 + \tau_{00} \quad (3.4)$$

Where

σ^2 stands for student level variation,

τ_{00} stands for school level variation.

By using the variables in the equation 3.4, intraclass-correlation or p value can be calculated with the formula below:

$$\rho = \tau_{00} / (\tau_{00} + \sigma^2) \quad (3.5)$$

The results of the totally unconditional model explained above can be found under the Results section of the thesis.

The final step of the analysis procedure was to conduct the main analysis using HLM7 software. In the main analysis, the student GPA values were set as the outcome variable in the level 1/student level. The school level independent variables were distributed leadership, teacher collaboration, enabling school structure with its subdimensions, and academic optimism with its subdimensions. The level 1, level 2 and the combined formulas are provided below.

Student level equation:

$$Y_{ij}(\text{GPA}) = \beta_{0j} + r_{ij} \quad (3.6)$$

School level equation:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}*(\text{OLK}) + \gamma_{02}*(\text{OAI_E}) + \gamma_{03}*(\text{OAI_TR}) + \gamma_{04}*(\text{OAI_AC}) + \gamma_{05}*(\text{DL}) + \gamma_{06}*(\text{KOY_EN}) + \gamma_{07}*(\text{KOY_HIN}) + u_{0j} \quad (3.7)$$

Combined equation:

$$Y_{ij}(\text{GPA}) = \gamma_{00} + \gamma_{01}*(\text{OLK}) + \gamma_{02}*(\text{OAI_E}) + \gamma_{03}*(\text{OAI_TR}) + \gamma_{04}*(\text{OAI_AC}) + \gamma_{05}*(\text{DL}) + \gamma_{06}*(\text{KOY_EN}) + \gamma_{07}*(\text{KOY_HIN}) + u_{0j} + r_{ij} \quad (3.8)$$

In the equations 3.6, 3.7, and 3.8;

$Y_{ij}(\text{GPA})$ stands for the GPA value of student i in school j ,

β_{0j} stands for the group mean of GPA values school j ,

γ_{00} stands for the grand mean of GPA values,

r_{ij} stands for random effect in the student level,

u_{0j} stands for random effect in school level.

$\gamma_{05}^*(\text{DL})$ stands for the fixed effect of distributed leadership,

$\gamma_{01}^*(\text{OLK})$ stands for the fixed effect of teacher collaboration,

$\gamma_{06}^*(\text{KOY_EN})$ stands for the fixed effect of Enabling School Structure's Enabling Bureaucracy dimension,

$\gamma_{07}^*(\text{KOY_HIN})$ stands for the fixed effect of Enabling School Structure's Hindering dimension,

$\gamma_{04}^*(\text{OAI_AC})$ stands for the fixed effect of Academic Optimism's Academic Emphasis dimension,

$\gamma_{02}^*(\text{OAI_E})$ stands for the fixed effect of Academic Optimism's Collective Efficacy dimension,

$\gamma_{03}^*(\text{OAI_TR})$ stands for the fixed effect of Academic Optimism's Trust in Clients dimension.

In the present study no independent variables were added to the level 1 equation. The reasons why no independent variables added to student level and possible limitations of it are dwelled on in the "Limitations of the Study" section.

3.5.1 Description of the variables

Since multi-level modeling was used in this study, variables in level 2 were aggregated to school level and their mean values were calculated. On the other hand, no mean values for the variables in level 1 were calculated. Below is the description of variables and how they were incorporated into the analysis.

Distributed Leadership: Distributed leadership was a level 2 variable; that is, school was taken as the unit of analysis for this variable since it is a phenomenon that concerns all the teachers in the organization (Spillane et al., 2001). Thus, all the available teachers in a school at the time it was visited have been asked to fill in a questionnaire that comprises items on distributed leadership quality of their school and their answers were aggregated to school level.

Teacher Collaboration: This variable was also a level 2 variable. It was incorporated to the main analysis as the aggregated measures of individual teacher's group-referent perceptions on the social collaboration in their school.

Enabling School Structure: This variable is related to the whole teachers in a school since they are bound by the same formal structure. Thus, this variable was incorporated to the analysis by aggregating the scores obtained from the group-referent perceptions of individual teachers to school level.

Academic Optimism: This variable is related to the climate of the schools. Since all the teachers in a school are part of their school's climate, this variable was accepted as the aggregated score of the group-referent perceptions of teachers on the academic optimism level.

Grade-Point Average: This variable was a level 1 variable. That is, it was not aggregated to any level. It is the individual scores that students have accumulated throughout the semester from all the courses they were taught in their schools. These student GPA scores were automatically linked to their schools by the HLM7 software via the school IDs they were encoded together.

3.5.2 Centering

Centering is an important issue in multilevel modeling (MLM) analyses. Centering can be explained as the decision to set the meaning of the intercept. Depending on the choice of centering the results of the study may alter. Contrary to traditional OLS regression techniques, there are several options for centering in MLM (Nezlek, 2008, 2011; Raudenbush & Bryk, 2002). In level 1, the data can be centered around group mean. In group-mean centering, the intercept denotes the expected value for an observed score as the mean value of the group. Another possibility of centering in level 1 is grand-mean centering. In grand-mean centering, the intercept denotes the expected value of an observed score as the mean value of all the groups. Lastly, there is the option of leaving scores uncentered. In this option, the intercept is accepted as the score of 0. This option is useful when the data is standardized. With the recommendations of Raudenbush and Bryk (2002), group-mean centering was chosen for the level 1 scores, aka GPA values of students, of this study. Selecting group-mean centering for level 1 variables was important since it removes the effect of level 2 differences in predictors. Also, according to Nezlek (2011), this is conceptually the closest way to doing a regression analysis for each school and then inspecting these coefficients in another analysis.

For level 2, MLM offers two options (Nezlek, 2011; Raudenbush & Bryk, 2002; Raudenbush et al., 2011). One option is to leave the data uncentered. As it is mentioned above, this option is suitable when the data at hand is standardized and the expected score at the center is zero. Another option is grand-mean centering. Grand-mean centering calculates the mean value of all the data from the sample and the calculated value is accepted as the expected score for the intercept. For this study, grand-mean centering was chosen for the level 2 variables. This was important because the data was not standardized in nature.

3.6 Limitations of the Study

This study was designed as a multilevel analysis that examined the correlations between different levels; namely, school level variables and a student level

achievement variable. It has important implications for the literature; however, the results should be considered with the limitations that arise from different aspects of the study. First of all, the analysis of the study included multilevel direct effects model. Thus, the study did not include any indirect effects. Although some studies (e.g. De Maeyer et al., 2007; Hallinger & Heck, 1998) indicate the importance of including indirect variables into the analyses that look for the relationship between school leadership and student achievement, this study tested numerous variables' cross-level and direct effects on student achievement.

Moreover, this study did not include the possible effects of out-of-school factors such as neighborhood, peer groups or families on student achievement and organizational processes. Not including these possible factors is generally cited as one of the criticisms towards the school effectiveness paradigm (Luyten et al., 2005). These possible factors in the schooling process were not included to the study because of practical reasons. Considering the available data sources, including these possible factors would make the study unfeasible.

Moreover, grade point average (GPA) values were used as the school effectiveness indicator for this study. GPA calculations in Turkey include all the grades of all the courses that are taught in a particular student's level. GPAs have been specifically chosen as the indicator value over national exam results since they are not one-time observation values and they include different skills such as arts, music and sports classes etc. (Maag Merki et al., 2015). However, they have some limitations that need to be noted. One limitation of GPA values is that they are not standardized. These values are calculated based on teacher evaluations of student performance. Further, although GPA values are more longitudinal in nature than national exam results, they represent students' performance for one semester and do not provide information about previous years' performances. In other words, although GPA values do not represent a one-time observation of student performance, they are not completely longitudinal in nature, either. Additionally, it should also be noted that this study was not designed as a longitudinal study. Longitudinal studies are generally described in the literature to be more helpful in tracking the development of schools (Luyten et al., 2005).

Furthermore, this study did not focus on the contents of the curriculum of primary and middle schools in public education. Rather, the study focused on how effective these schools are in teaching their curriculum and thus, promoting student achievement. In other words, the main concern of the study was to shed light on the predictive relationship of the specified organizational level variables on student achievement and by doing it the study did not get into the debates of what should be taught and how.

Additionally, the HLM model tested in this study investigated the relationship between a set of school-level independent variables (i.e. distributed leadership, enabling school structure, teacher collaboration and academic optimism) and a dependent variable of student achievement. Accordingly, the examined model did not include an independent variable at the student level. This can be noted as a limitation for the study since there could be factors having an impact on student achievement at the student level.

Further, common method bias can potentially lead to limitations for this study, as well. Podsakoff, MacKenzie, Lee, and Podsakoff (2003) listed several possible sources of common method bias. These possible sources include common rater effects, item characteristic effects, item context effects, and measurement context effects. To prevent any issues resulting from these method biases, some measures were taken. First of all, Podsakoff et al (2003) suggested in their article that one of the keys to controlling method bias was to eliminate or minimize the commonalities between criterion and predictor variables of the study. The present study aimed to eliminate this potential source of bias by collecting data for predictor and criterion variables from different pools of participants. This strategy helped reduce potential method bias sources of social desirability, consistency motifs, implicit theories, dispositional and transient mood states, leniency biases and acquiescence biases according to Podsakoff et al (2003). Also, to eliminate further method biases, the respondents were assured that their responds will be treated anonymously. No names were requested in the data collection procedure and when a questionnaire was filled in, it was put in a bag that carried other questionnaires so that the participants knew their answers cannot be attributed to their identity in any way. Moreover, participation for the study was

voluntary. The respondents were told that they will not receive any harm or benefit from participating in the study. Participants were also informed that there were no right or wrong answers in the questionnaires. These measures were intended to eliminate possible limitations that may arouse from participants altering their responses to be lenient, socially desirable, acquiescent and consistent with what they believe the researcher expects them to reply (Podsakoff et al., 2003).



CHAPTER IV

RESULTS

In this chapter, the results of the present study are dwelled on in a detailed manner. Firstly, a detailed discussion on how the missing values were addressed and the missing value analysis results are provided. Then, bivariate correlation results between the variables included in the study are presented. Subsequently, the results of the measurement model conducted for the study are reported. After that, test results of the normality of level 1 residuals and a brief discussion on the topic is provided. Next, the main hierarchical linear modeling results along with descriptive statistics of the main analysis and the totally unconditional model results are presented in detail. Finally, a summary of the results is provided at the end of the chapter.

4.1 Missing Value Analysis

Before moving on to missing value analysis (MVA), firstly, the questionnaires collected were screened and the ones with the majority of the items left blank and the ones that were filled in with only the highest or the lowest scores on the Likert scales were excluded from the study. To eliminate any bias in the latter exclusion process, reversely coded items were made use of. There were negatively constructed items in the scale such as the item “The administrators in this school use their authority for teachers to do their job well” versus the item “School administrator uses his/her authority to harm teachers.” As a result of this preliminary screening, from the 535 surveys collected, only 36 questionnaires were eliminated, leaving behind 499 surveys in the dataset.

After this, accordingly with the recommendation of Hair and his colleagues (Hair, Black, Babin, & Anderson, 2010) the data with more than 50% missing in any of the variables were also eliminated from the dataset since they were not considered to

contain meaningful content. As a result of this, only 7 cases were deleted, leaving the dataset with 492 valid cases.

MVAs were conducted with the 492 valid cases left in the dataset. All the variables except two yielded insignificant results for the Little MCAR test. The ones with significant Little MCAR test results were Enabling Bureaucracy dimension of Enabling School Structure Scale and Collective Efficacy dimension of Schools' Academic Optimism Scale. For these two scales, t-tests were run to test if there were any bias between groups of teachers. In other words, t-tests were run to check if a certain group of participants refused to answer these scales or if they answered the scales in certain bias. For this, all the categorical variables in the dataset were used as grouping variables; namely, gender (male and female) and the level of schooling (primary and middle school teachers). None of the t-tests yielded significant results. Thus, accordingly with the findings, it was concluded that the missingness in these variables were not resulting from a bias that a certain group of people refused to answer some items.

4.2 Bivariate Correlation Analysis

To check the correlations between the variables and examine multicollinearity, bivariate correlations between the variables of the study were calculated. The analysis results denoted that no correlation value between the variables exceeded the value of .70 which is well below the critical value of .90 suggested by Field (2005). Bivariate correlation analysis results are summarized in Table 4.1 below.

Before commenting on the correlation values, it should be noted that the cut-off values offered by Field (2005) was used to interpret the bivariate correlations and thus, the Pearson correlation values of $\pm .1$, $\pm .3$ and $\pm .5$ are interpreted as small, medium and large effects, respectively. Accordingly, one interesting finding was that the three variables of academic optimism were not correlated to each other with a large effect. Apart from the positive correlation with a large effect between the variables of academic emphasis and trust in clients, there were positive correlation with a small

effect between academic emphasis and collective efficacy, and no significant correlation between the variables of trust in clients and collective efficacy at all.

Moreover, distributed leadership was positively correlated with enabling school structure with large effect and negatively correlated with hindering bureaucracy with a medium to large effect. This implies the existence of strong connections between distributed leadership and formal structure in schools. Further, distributed leadership was positively correlated with teacher collaboration in schools with a medium effect.

As expected, hindering bureaucracy was negatively correlated with the other variables. This negative correlation was medium to large effect in nature with the variables of distributed leadership, enabling bureaucracy and collective efficacy and small effect in nature with teacher collaboration, academic emphasis and trust in clients.

Table 4.1

Bivariate Correlations of the Variables of the Study

Variable	1	2	3	4	5	6	7
1.Distributed leadership	1	.305**	-.445**	.684**	.294**	.196**	.133**
2.Teacher collaboration		1	-.111*	.309**	.365**	.350**	.267**
3.Hindering bureaucracy			1	-.472**	-.165**	-.112*	-.390**
4.Enabling bureaucracy				1	.329**	.217**	.140**
5.Academic emphasis					1	.683**	.136**
6.Trust in clients						1	.086
7.Collective efficacy							1

* $p < .05$. ** $p < .01$.

4.3 Measurement Model Results

Measurement model is a confirmatory factor analysis (CFA) technique to test the relationship among latent variables and their indicators (Byrne, 2010). AMOS 22 software was used to test the 7-factor measurement model. These factors were the

latent variables of distributed leadership, teacher collaboration, enabling bureaucracy, hindering bureaucracy, collective efficacy, trust in clients, and academic emphasis.

The initial measurement model results yielded a significant chi-square value, $\chi^2(1106) = 2661.444$, $p < .05$, and an χ^2/df value of 2.41. According to the cut-off values suggested by Hair et al. (2010) and Kline (2011), χ^2/df value indicated that the model was a good fit. RMSEA, another fit indices value, indicated a value of .054 (90% CI = .05 - .06, $p_{close} = .01$). According to Hu and Bentler (1999), a RMSEA value lower than .06 is considered as a good fit; however, p_{close} being significant is an indicator that the model fit can be improved. Moreover, the CFI and TLI models were reported to be .90 and .89. According to Hu and Bentler (1999) these values need to be higher .90 for the model to be accepted as a good fit. Thus, it was decided that the model can be improved. By looking at the estimates and modification indices, two items (item number 6 and 9) of the distributed leadership scale were eliminated with the permission of the scale developers.

The final measurement model resulted in an improved model fit. The CFA results included a significant chi-square, $\chi^2(1013)=2299,631$, $p < .05$, with a χ^2/df value of 2.27 which is well between the cut of values suggested by Kline (2011) and Hair et al (2010). This time, RMSEA value was .051 (90% CI = .048 - .054, $p_{close} = .30$). As it can be seen, in the final analysis the RMSEA value was slightly smaller and the p_{close} value showed insignificant results. These results indicated a good model fit according to Hu and Bentler (1999). Further, both CFI and TLI values increased in the final analysis and were reported to be .91 and .90. Although these values still do not represent a perfect fit according to Hu and Bentlers' (1999) suggestion that they should be close to the value of .95, they were considered as acceptable fit given that other indicators such as RMSEA value or χ^2/df value indicated good fit and that there is previous validity evidence from the original developers of the scales which is discussed in the "Instrumentation" part. The final measurement model diagram with latent correlations and standardized estimates can be found in Figure 4.1 below.

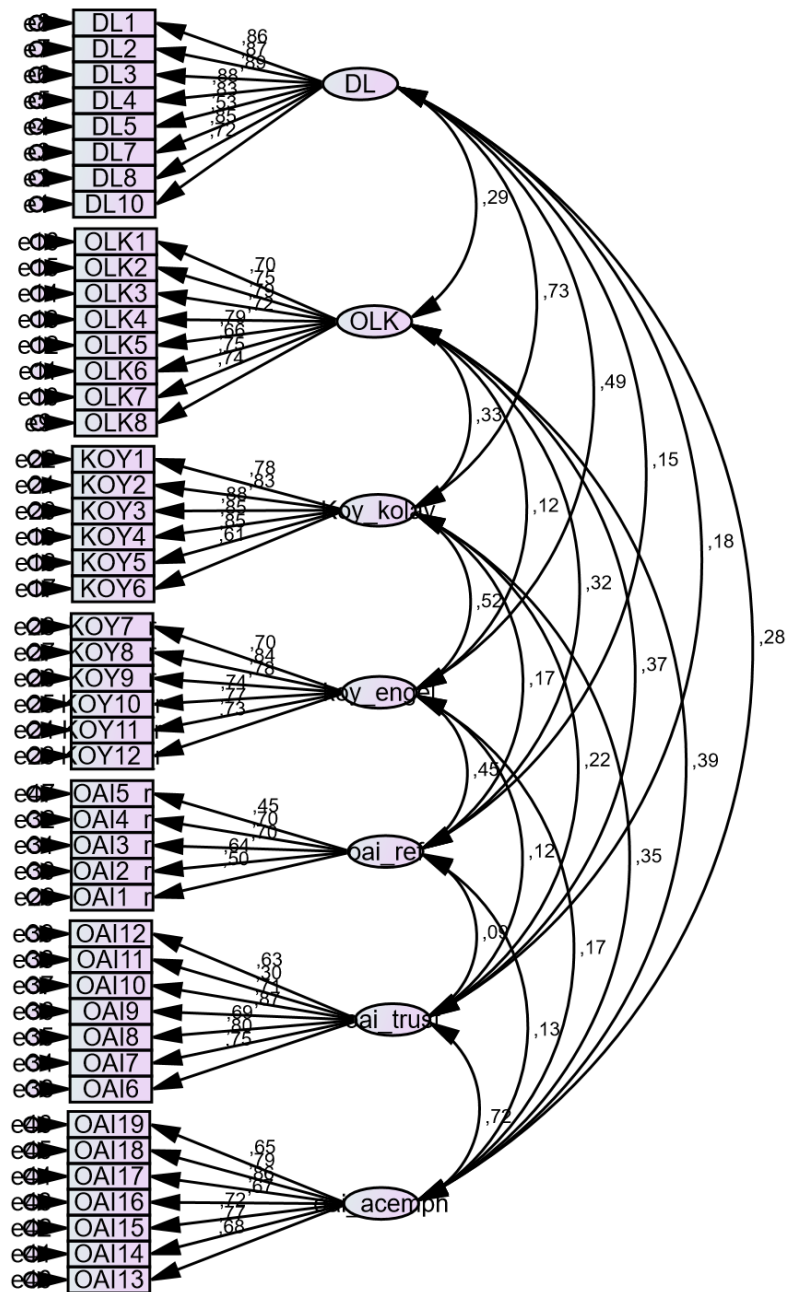


Figure 4.1. Measurement model diagram with latent correlations and standardized estimates.

4.4 Normality of Level 1 Residuals

Level 1 residual file was obtained from HLM7 software after the main analysis was run. This output file was compatible with SPSS software and therefore, the files was opened with SPSS 22 software. By using the SPSS 22 software, the histogram and q-q plot of the level 1 residuals were created and skewness and kurtosis tests were conducted.

As it can be seen from Figures 4.2 and 4.3 below, there are some outliers in the distribution of level 1 residuals. When these outliers were checked from the dataset, it was observed that these outliers were either because of the students who had a GPA of 0 because of their attendance or because of the ones with very high GPA values (e.g. 100/100) in schools where the average achievement level is low.

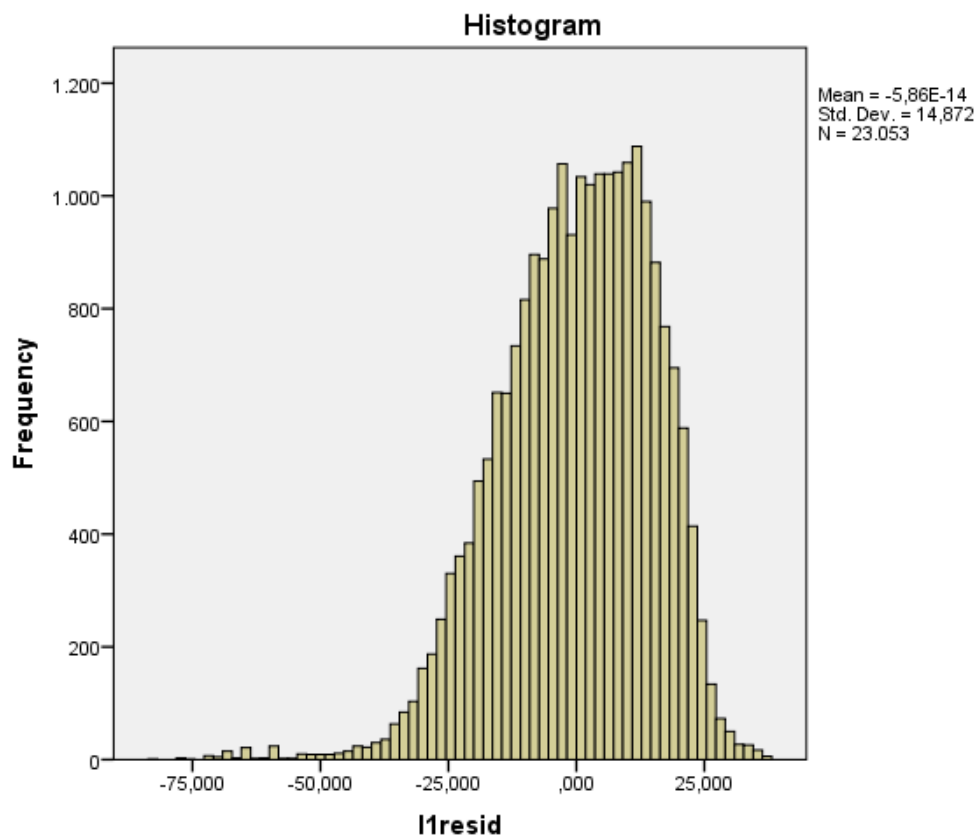


Figure 4.2. The histogram of level 1 residuals.

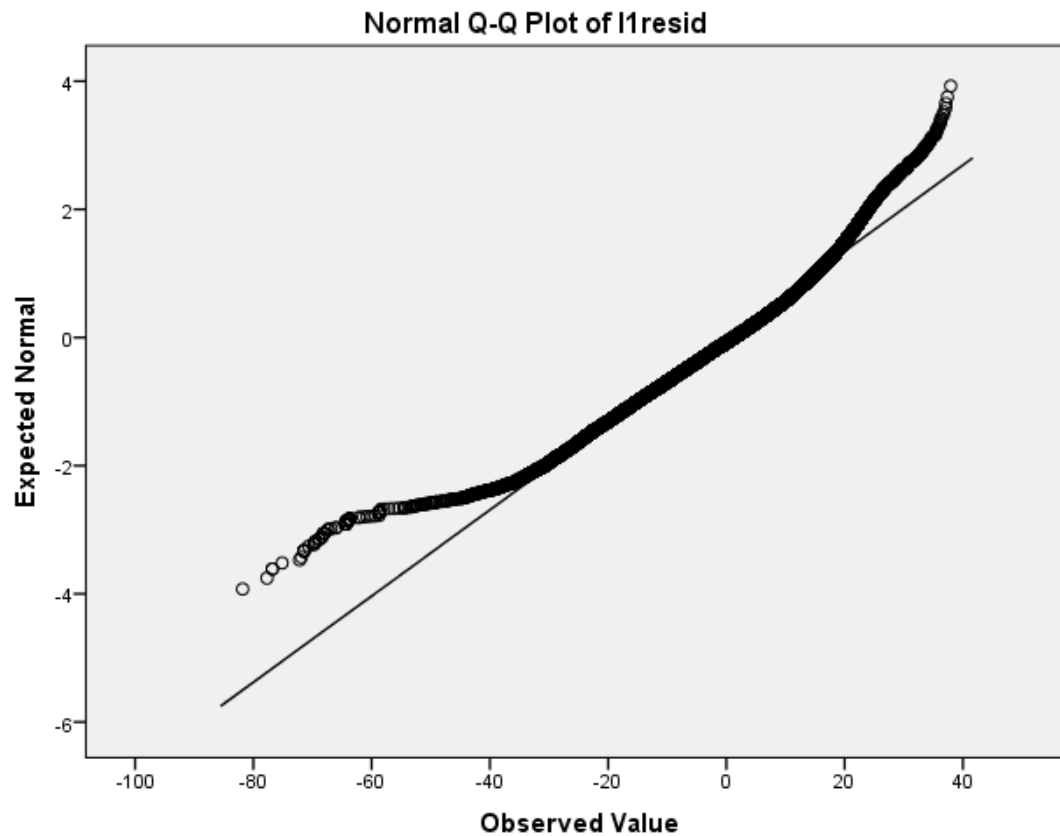


Figure 4.3. The normal q-q plot of level 1 residuals.

Moreover, skewness and kurtosis tests were also run to test the normality of the level 1 residuals. The results of skewness and kurtosis tests are depicted in Table 4.2 below. Although the outliers were visible in the histogram and the q-q plot above, skewness and kurtosis values for the level 1 residuals were between the recommended cut-off values (Kline, 2011). The skewness and kurtosis values were $-.61$ and $.78$, respectively, as it can be seen from the table below.

Table 4.2

Skewness and Kurtosis Values for Level 1 Residuals

Test Names	Test results
Skewness	-.61
SE	.02
Kurtosis	.78
SE	.03

In short, when the dataset was checked for the low and high scores, it was observed that the skewedness seen in the histogram and q-q plot was because of students who had a GPA of 0 probably because of attendance issues or the ones who get very high GPA's (such 100/100) in schools where average achievement was low. Also, it should be noted that it is very hard to get a perfectly normal data when the sample size is this high ($n = 23053$). Furthermore, only the results with standard errors that are robust to violation of normality computed by default by the HLM7 software (Tabachnick & Fidell, 2007) were used and reported in the present study. Thus, based on the brief discussion above, it was decided not to do any manipulation in the data and accordingly, nothing was excluded from the dataset. Not excluding any GPA score was important for the present study since student achievement variable of each and every student was of great importance and since even the low scores resulting from attendance issues has the potential to show schools' performance about student achievement outputs.

4.5 Hierarchical Linear Modeling Results

Under this heading, the results of the analyses conducted using HLM7 software are presented. First, multilevel descriptive analysis results are reported. Then, analysis results of the totally unconditional model are dwelled on. Lastly, the main hierarchical linear modeling analysis findings are described in detail.

4.5.1 Descriptive statistics results

After the MDM file was created with HLM7 software by combining the separate SPSS files for school and student level variables, the software produces a descriptive statistics file. For detailed information about after which step the descriptives were produced, you can refer to “Data Analysis” section. The descriptive statistics were produced after the second step that was described under the section mentioned above. The multilevel descriptives of the variables included in the main analysis are provided below in Table 4.3. As it can be seen from the table, there were 40 schools participating in the main analysis of the study. All the variables under the school level section of Table 4.3 were aggregated to school level and thus, they denote school means. All the scales in the school level had Likert-type scales that ranged from 1 to 5 with 3 being neither agree nor disagree. Accordingly, teachers in the participant schools on average reported that their schools’ leadership was distributed ($M = 4.02$, $SD = .66$). The school with the lowest score on distributed leadership had a mean value of 2.10, and the one with the highest score had the mean value of 4.80. Moreover, on average most of the schools agreed that there was teacher collaboration in their schools ($M = 4.13$, $SD = .29$). Also, as a side note, there were more consensus among teachers on this variable than on districted leadership as the standard deviation value was relatively smaller ($SD = .66$ vs $SD = .29$). In the enabling bureaucracy dimension of enabling school structure variable, teacher responses were relatively more close to the middle value (3) in the Likert-type scales ($M = 3.66$, $SD = .48$) showing that they were not as positive in this variable as they were in, for instance, teacher collaboration. In the hindering bureaucracy dimension, higher values denotes that the school has lower levels of hindering bureaucracy. In this sense, it can be said that the teachers in general agreed that their schools did not have a hindering bureaucracy ($M = 4.00$, $SD = .48$). In the light of these descriptive data, the schools were reported not to have a hindering bureaucracy but the bureaucracy they had were not altogether an enabling one, either, since the agreement level of teachers were not that high in enabling bureaucracy ($M = 3.66$, $SD = .48$). Among the dimensions of academic optimism, collective efficacy had the highest mean score ($M = 4.44$, $SD = .28$), followed by academic emphasis ($M =$

3.47, $SD = .51$) and trust in clients ($M = 3.22$, $SD = .45$), respectively. Moreover, trust in clients variable had the lowest mean score ($M = 3.22$, $SD = .45$) among other school level variables whereas collective efficacy variable had the highest mean score and also the highest consensus among teachers ($M = 4.44$, $SD = .28$). Regarding the student level, there were 23053 students participating in the study. Student achievement data requested from schools had a minimum and maximum scores of 0 and 100, respectively. The mean score of the student achievement variable was 73.70 with a standard deviation value of 16.04.

Table 4.3

Descriptive Statistics

Variable	<i>M</i>	<i>SD</i>	MIN	MAX
School Level (<i>N</i> =40)				
Distributed leadership	4.02	.66	2.10	4.80
Teacher collaboration	4.13	.29	3.47	4.68
Enabling school structure, enabling bureaucracy dimension	3.66	.48	2.32	4.46
Enabling school structure, hindering bureaucracy dimension	4.00	.48	2.67	4.71
Academic optimism, academic emphasis dimension	3.47	.51	2.42	4.89
Academic Optimism, trust in clients dimension	3.22	.45	2.20	4.22
Academic optimism, collective efficacy dimension	4.44	.28	3.60	5.00
Student Level (<i>N</i> =23053)				
Student Achievement	73.70	16.04	.00	100

4.5.2 The unconditional model

Before the main HLM analysis, an unconditional model was produced using HLM7 software. Unconditional model in HLM is a model with no predictors at either student or school level. It is useful to separate the within and between variance components of the dependent variable, which is student achievement in this case. This initial estimate

is especially important to later assess what percentage of the variation between schools in student achievement were explained by the proposed model in the full HLM analysis (Nezlek, 2011; Raudenbush & Bryk, 2002; Raudenbush et al., 2011). The results of this model are displayed in Table 4.4 below. The HLM estimate of reliability for the intercept values was .98. As it can be observed from the table below, the great proportion of the variation in student achievement occurred within school rather than between schools. This result is compatible with what was expected and with the related literature (e.g. Goddard, 2001; Walker, Lee, & Bryant, 2014). Proportion of variance in student achievement between schools, aka intraclass correlation, was 16.75%. More importantly, the chi-square test results showed a statistically significant nonzero score for the variation of student achievement between schools, $\chi^2(39, N = 40) = 3788.27, p < .001$. Thus, it was decided to continue to the model designed to explain this statistically nonzero variation of student achievement between schools.

Table 4.4

HLM Unconditional Model Results

Variable	Variation
Intercept	73.09 (1.05)
Between-school parameter variance	44.57 ^a
Within-school parameter variance	221.53
HLM reliability estimate	.98
Proportion of variance between schools	.17

$N = 23053$ students from 40 schools. Standard Error is displayed in parentheses.

^a $\chi^2(39, N = 40) = 3788.27, p < .001$.

4.5.3 Main hierarchical linear modeling analysis

The main HLM analysis that addressed the major research question and its sub-questions is provided below in Table 4.5. As it can be seen from the table below, some variables had a significant predictive value on the differences in student achievement between schools and some others did not. To start with, distributed leadership did not

predict the differences in student achievement between schools in a significant manner ($p = .44$). Actually, it had a negative and insignificant relationship with the differences in student output variable among schools. Moreover, teacher collaboration had an insignificant and negative predictive relationship with the differences in student achievement across schools ($p = .95$). Enabling bureaucracy was not in a significant predictive relationship with the output variable, either ($p = .40$). On the other hand, hindering bureaucracy significantly predicted the differences between student achievement between schools ($p = <.05$). This meant that every standard deviation decrease in hindering bureaucracy increased student achievement approximately by 6 points. Since hindering bureaucracy is reversely coded, the results can be rephrased as the higher the level of hindering bureaucracy, the higher the student achievement approximately by 6 points. Furthermore, academic emphasis had a positive but insignificant relationship with between-school differences in student achievement ($p = .09$). Academic emphasis was the only component of academic optimism that had an insignificant relationship; the other two both had significant relationships. More specifically, trust in clients (parents and students) predicted the across-school differences in student achievement in a positive and significant manner ($p = <.05$). To put it differently, every standard deviation increase in trust in clients, predicted 5.44 points increase in student achievement. Lastly, being another component of academic optimism, collective efficacy significantly and positively predicted the between-school differences in student achievement ($p = <.01$). This variable was the strongest predictor of student achievement differences between schools in terms of both significance and coefficient. One standard deviation increase in collective efficacy of the faculty meant an approximate score of 8.16 points increase in student achievement.

Table 4.5

Proposed Variables as the Predictors of Variation in Student Achievement between Schools (with Robust Standard Errors)

Variable	Coefficient	SE	T ratio	p
Intercept	73.06	.61	119.448	<.001
Distributed leadership	-2.02	2.58	-.78	.44
Teacher collaboration	-.16	2.36	-.07	.95
Enabling bureaucracy	3.45	4.08	.85	.40
Hindering bureaucracy	-5.99	2.77	-2.17	<.05
Academic emphasis	4.58	2.64	1.73	.09
Trust in clients	5.44	2.20	2.48	<.05
Collective efficacy	8.16	2.73	2.99	<.01

N = 23053 students from 40 schools.

Moreover, Table 4.6 below denotes the HLM results of the proposed model's variation between and within student achievement, proportion of variance between schools, and proportion of between-school variability explained by the model. To be able to interpret this table better, please refer to Table 4.4 in the previous subsection. As it can be seen from Table 4.6, within-school parameter variance remained unchanged when it was compared with the unconditional model. This was expected as the present study did not focus on within-school differences in student achievement and thus, did not include any level 1 predictor variable. In other words, since the study mostly dealt with the impact of school-level variables on student achievement, the model focused on explaining between-school variance in student achievement. Accordingly, the full model did result in a decreased level of between-school variance component in student achievement (from 44.57 to 17.80). When the totally unconditional model and the proposed model results were compared to see the reduction in the between-school variance component, it was observed that 60.05% of the variance in student achievement between schools was explained by the model proposed. Therefore, it can be said that the proposed model explained the majority of the between-school variance in student achievement. Moreover, the proportion of variance in student achievement between schools decreased to 7.44%. In other words, the inequality of student achievement outcomes between schools were decreased to a level that is even below

than 10%. On the other hand, the remaining between-school variation for student achievement, $\chi^2(32, N = 40) = 1698.59, p < .001$, was still statistically nonzero. To put it differently, although the proposed model explained the majority of between-school variance in student achievement, there are still some other variables that may play an important role in explaining the cross-school differences in student achievement.

Table 4.6

HLM Proposed Model Results: Variation between Schools in Student Achievement

Variable	Variation
Intercept	73.06 (061)
Between-school parameter variance	17.80 ^a
Within-school parameter variance	221.53
HLM reliability estimate	.95
Proportion of variance between schools	.07
Proportion of between-school variability explained by the model ^b	.60 ^b

$N = 23053$ students from 40 schools. Standard Error is displayed in parentheses.

^a $\chi^2(32, N = 40) = 1698.59, p < .001$.

^b Calculated as the reduction in between-school parameter variance reported in Table 4.2

4.6 Summary of the Results

The purpose of this study was to test a model that examines the relationship between the outcome variable of differences across Turkish public schools in student achievement and the predictor variables of distributed leadership, teacher collaboration, enabling school structure, and academic optimism. The results of the study provided some important answers.

First of all, the study results revealed that there is a significant difference in student achievement between Turkish public schools. Analysis results showed that 16.75% of the variation in student achievement occurred between schools showing that some schools are better in promoting student achievement while others are not that good.

Thus, to explain this significant difference between schools, the proposed HLM model was tested. Findings revealed differing relationships for the variables. While hindering bureaucracy, trust in clients, and collective efficacy had significant predictive relationships with student achievement; distributed leadership, teacher collaboration, enabling bureaucracy and academic emphasis did not.

Furthermore, the results of the study showed that the variation in student achievement between Turkish public schools decreased to a value of 17.80 from a value of 44.57 after the inclusion of the proposed predictor variables into the analysis. This meant that 60.5% of the variation in student achievement across Turkish public schools were explained by the model proposed. In other words, majority of the variation in student achievement between schools was explained by the model and thus, the proportion of variance in student achievement between schools decreased to a percentage value of 7.44%. This indicated that there is a potential of decreasing the differences between schools in promoting student achievement and as a result of this, promoting a schools system that has more equality in promoting student achievement. On the other hand, as expected, no reduction in the variation of within-school student achievement was observed.

CHAPTER V

DISCUSSION

In this chapter, findings of the study are discussed in detail with reference to the relevant literature. After that, implications for practice, theory and research are proposed. Lastly, some recommendations were made for further studies considering the limitations of the present study.

5.1 Discussion of the Results

The main purpose of this study was to investigate the relationship between across-school differences in student achievement and the school-level predictors of distributed leadership, enabling school structure, teacher collaboration and academic optimism in Turkish public schools. The study revealed important findings that need to be discussed in the light of the relevant literature.

To start with, one of the important features of the study, thanks to the multilevel methodology it adopted, was to be able to distinguish within and between school variations in student achievement and thus, to be able to test whether there were significant differences in student achievement attainments between Turkish public schools. According to the analysis results, a significant student achievement difference between public schools of Turkey was observed. This significant difference accounted for the 16.75% of the total variation in learning outcomes. This finding also meant that most of the variation in student achievement occurred within-school. In other words, variation of student achievement varied the most inside schools. Accordingly with the literature, the finding that within school variation accounting for most of the variation was expected (e.g. R. D. Goddard, 2001; Walker et al., 2014). In every school, there can be students who are responsible, engaged and some students who may not be fond of their schools. This could be one of the reasons why some students get higher grades

and some others get lower grades. While this difference in student achievement within school is not desirable either, the focus of the present study was on between-school differences in student achievement and thus, it focused on explaining and providing suggestions for across-school differences.

Part of the reasons why this study focused on between-school differences in Turkish public schools was the severe implications it might have. Between-school differences in learning outcomes are more likely to be a result of neighborhood differences or unequal opportunities offered by schools because of quality differences. To put it differently, questions such as whether the quality of public schooling services differ from neighborhood to neighborhood may arise as the results of this study revealed a significant difference in learning outcomes between schools from various neighborhoods. Questions such as this produce counter arguments for one of the fundamental assertions of centralized education systems such as Turkey's that every citizen benefits from education services in an equal manner (Kondakci, Zayim, Oldaç, & Şenay, 2016). Hence, in terms of student achievement differences between public schools, findings of the study signified that the current situation of public schools may not align with the promise of equal opportunities for each and every citizen to get quality education.

Moreover, regarding the relationship between the dimensions of academic optimism and differences in student achievement across schools, findings of the study were mainly congruent with the literature. All three dimensions had positive associations with the between-school differences in student achievement. Among the three dimensions, two of them were significantly and one were insignificantly related to student achievement. Collective efficacy was the strongest predictor of student achievement. One score increase in the collective efficacy meant 8.16 point increase in student GPA scores ($p < .01$). In other words, teachers' belief as the whole faculty that they can make a difference in students' lives plays an important role in schools achieving better academic outcomes.

Furthermore, trust in clients; namely, parents and students, played a significant role in achievement attainments, as well. One score increase in trust in clients meant a 5.44 point increase in student GPA scores ($p < .05$). This finding suggests that school-family relationship is an important factor for obtaining improved student achievement results in public schools of Turkey. Besides, this finding can be related to the concept of collectivistic society offered by Hofstede, Hofstede and Minkov (2010). According to Hofstede and his colleagues, people in collectivistic society emphasize interpersonal relationships and define their self-image more in terms of “we” than “I.” The latest data provided by the official website titled as “Turkey - Geert Hofstede” (Hofstede, n.d.) put forward that Turkey is a collectivistic society. Thus, the finding that faculty and family relationships were found to be important predictors can be accepted to be in line with the seminal work of Hofstede et al. (2010).

Furthermore, although a positive relationship between academic emphasis and student achievement differences between schools was observed, this relationship was not significant with a p value of .09. One explanation for academic emphasis to have insignificant effects on student achievement could be the inclusion of other related variables to the analysis simultaneously. It is very hard for a variable not to have any relationship with other variables in social sciences. On the contrary, they all have, small or big, correlations among them. For example, this was the case in Hoy, Sweetland, and Smiths’ study (2002), as well. In their study, they acknowledged that even the direct relationship between student achievement and academic emphasis was supported in the previous works, their study showed no significant direct relationship. On the other hand, they maintained, all the studies that had been done before their study did not include collective efficacy. Therefore, they inferred from this that the effectiveness of academic press is removed when the collective efficacy is present. To put it differently, rather than wrapping up by saying that the academic emphasis is not effective, they concluded that academic emphasis works through collective efficacy and it is most effective when the collective efficacy is present. In this particular study, both collective efficacy and academic emphasis, as well as a few other related variables, were present. The fact that academic emphasis did not have a significant

direct relationship with student achievement in this study could be a result of a similar situation.

Besides, the inclusion of primary schools to the analysis could be another reason why academic emphasis did not significantly relate to student achievement. Although care was given to control school structure differences by not including high schools into the analysis, the same decision was not given for the primary schools. Primary schools may not be as academically oriented as middle schools. As a result of this, the variable of academic emphasis may ended up being insignificantly related to student achievement.

Another important finding of the study was that distributed leadership did not have a significant direct effect on differences in learning outcomes ($p=.44$). It should be noted that this finding is in accordance with the findings of the latest OECD Teaching and Learning International Survey (TALIS) data on Turkey. According to TALIS results (OECD, 2009), Turkish principals tend towards administrative/bureaucratic style of leadership rather than having a distributed style. On the other hand, possible reasons why its relationship with student achievement was not found to be significant should still be discussed in detail. Several reasons why this form of leadership did not have a significant direct effect on student achievement could be listed.

One of the important reasons that may explain the background of distributed leadership not having a significant influence on differences in student achievement could be the nature of leadership practice. Hallinger and Heck (1998), in their extensive review of school effectiveness research, pointed out that leadership has an indirect and small effect on student achievement through different organizational features. Also, some of the studies in the literature revealed weak or no relationship between leadership and student outcomes (e.g. Kyriakides, Creemers, Antoniou, & Demetriou, 2010). Accordingly with the literature, the results of this study indicated an insignificant value for the direct relationship with differences in student achievement. Thus, in this sense, the results of this study can be considered as compatible with the literature in that leadership was not found to be directly related to student achievement. Also, these

findings support several scholars' skeptical statements on the effect of distributed leadership on different processes and outcomes of schools, including student achievement (e.g. Harris, 2011; Harris, Leithwood, Day, Sammons, & Hopkins, 2007).

Further, Hallinger and Heck (1998), argued in their study that the degree of analytic technique sophistication does not seem to make a difference about leadership not having a significant direct relationship with student achievement. Their conclusion is much related to this study as multilevel modeling is a sophisticated analytic technique that can account for the nested structure of educational organizations and can separate the between and within variance of student achievement in schools. Parallel to Hallinger and Heck's (1998) contention, regardless of its sophisticated capabilities, it did not point out a significant direct relationship between leadership and student achievement.

Another explanation why distributed leadership was found not to have a significant relationship with student achievement could be the preoccupation with the student performance indicators that are generally used in the performance tables. To illustrate, the leader may promote deep learning; however, this may not reflect on the short-term exam results. To put it differently, the strategy of promoting deep learning and note-taking exam results as the only goal may sacrifice the short-term gains. Thus, the actual effectiveness of leadership may not be seen on the radar that detects only student achievement variables that are used on the performance tables (Barker, 2007).

To articulate another point of view, Spillane (2006) criticized this whole notion of evaluating distributed leadership through its effectiveness on student achievement. He criticized the general notion used to define leadership that it is a relationship of social influence. According to him, when defined this way, there is an inclination towards measuring leadership in terms of its outcomes or its effectiveness. He continued by giving examples from one of the schools in his study. According to his example, there could be a leadership in a school but teachers may not be affected from it. Further, he maintained that even teachers who ignore the motivation and vision offered by the leadership accept that those activities by leadership are meant to influence their

working environment. Moreover, he continued with another analogy that we call what teachers do in class time as teaching activity no matter whether it ends up with learning or not. Additionally, Spillane made it clear in his publications (e.g. 2005, 2006) that he does not make any claims about whether distributed leadership has an impact on school effectiveness or not. Rather, he claimed that it is more of a frame for thinking about and designing studies about leadership in schools.

On the other hand, these arguments put forward by Spillane (2006) reminds the criticism raised by Mayrowetz (2008) that this modest claims for leadership may have limited implications for a field that is focused a lot on problem-solving and practices. To him, as a result of this, many researchers in the field try to switch this descriptive stance to a normative stance even though they continue on citing Spillane, Gronn, and colleagues in their works.

Additionally, in his book *Distributed Leadership*, Spillane (2005) himself acknowledged that there is a lack of evidence that distributed leadership is effective in promoting student achievement or instructional improvement; however, he put forward that this is not a weakness of the construct. To him, while it may be understandable that educators are concerned with promoting student achievement, it is not crucial. The important thing in promoting student achievement is not whether the leadership is distributed or not but how it is distributed. Considering the results of this study, it can be concluded that the author might be right. Distributed leadership has been shown to be effective on various organizational features in schools (Hulpia, Devos, & Rosseel, 2009; Hulpia et al., 2011; Hulpia, Devos, & Van Keer, 2009; Mascal et al., 2008). Moreover, the findings of the present study also had implications for the construct having significant relationships with organizational features as distributed leadership had significant bivariate correlations with all the other school level variables in expected directions. This argument is also in line with Krüger, Witziers and Slegers' (2007) findings that leadership was found not to have a direct or indirect effects on a school output variable but found to be reciprocally influential towards and by different organizational features in schools.

Based on this discussion, it can be argued with confidence that distributed leadership is still an important way to look at school leadership and the finding that it does not have a significant direct relationship with differences in student achievement between schools does not mean it is trivial.

Regarding the relationship between formal school structure and student achievement, the results of the study suggested a nonsignificant relationship for enabling school structure and a significant relationship for hindering school structure. Based on this finding, it can be argued that the existence of a hindering bureaucracy is much more effective on student achievement than the existence of enabling school structure. This finding is very in line with Baumeister, Bratslavsky, Finkenauer and Vohs' (2001) arguments proposed in their article. According to their seminal work, negativity is way stronger than positivity. According to the authors, even when both positive/neutral situations or emotions and negative ones had equal levels of intensity, the negative ones are stronger and more effective. Accordingly, although enabling school structure had a positive relationship with differences in student achievement between schools, it was not statistically significant but hindering bureaucracy was, indeed, found to be significant.

One interesting finding about hindering bureaucracy was that it had a positive relationship with differences in student achievement between schools. In other words, every point increase in hindering bureaucracy meant an increase in student GPA scores by 5.99 ($p < .05$). There are several ways to interpret this finding. First of all, it should be noted that the original scale developed by Hoy and Sweetland (2001) was constituted of a single bipolar factor; that is, the structure of a school could either leaned towards hindering or enabling structure. On the other hand, the Turkish version of the scale adapted by Özer and Dönmez (2013) was found to have two factors after the item loadings were taken into consideration. That is, it is not possible to neither confirm nor counterargument the findings of the present study from the international literature as the original scale did not provide the opportunity to analyze the effects of enabling and hindering bureaucracy on student achievement as two separate factors. Moreover, to the best of our knowledge, although there have been numerous studies

investigating enabling school structure in the educational contexts in Turkey, there have not been an empirical study that investigated its relationship to student achievement. Thus, the present study is the first to study the direct relationship between formal school structure and student achievement in Turkish public schools. Clearly, more research is necessary to gain further insights on this issue.

Also, another explanation for hindering bureaucracy having positive relationship with student achievement is the role of cultural differences. It would not be accurate to expect the findings to be consistent all over the globe. Especially when Hoy and Sweetland (2001) themselves, the scholars who conceptualized the construct, accepted the culturally-bound nature of enabling school structure concept. Thus, the results should be considered as a mirror reflecting the cultural situation of the context where the study was conducted.

Additionally, nation-wide examinations such as TEOG, an examination that students have to take to get into a high school in Turkey, may be another reason why hindering bureaucracy had a significant effect on student achievement. In Turkey, TOEG examination puts a lot of pressure on schooling levels prior to high schools. Thus, administrators in these schools may be inclined to pressure the faculty members to prepare students for this type of examinations and hence, this could trigger more of a hindering structure than an enabling one. Yet, despite being hindering, as results of this study suggested, this type of school structure may end up having a positive effect on student achievement.

Moreover, it should also be taken into consideration that the findings of the present study are a result of a relationship analysis. Thus, although the results claim a predictive relationship between formal school structures and student achievement, no claims are made about causation. To this extent, based on the findings of the present study, it is neither possible nor intended to conclude that hindering bureaucracy “caused” an increase in student achievement.

Furthermore, the findings of this study revealed that there was no significant direct link between teacher collaboration and student achievement. This result was not such a huge surprise as a former study by Marks and Louis (1997) also showed no direct results between a similar concept of teacher empowerment and differences in student achievement across schools. And as a side note, the authors also adopted a multilevel modeling methodology. On the other hand, when the literature is concerned, it can be said that researchers tend to believe there is a link between student achievement and teacher collaboration. To his end, indirect relationships among the two variables should be explored as this study results only denied the direct relationship between the two when analyzed simultaneously with other school-level variables that were proposed within the HLM model.

Also, there are some studies that found positive relationship between social interaction of teachers and student achievement in the literature (e.g. Y. L. Goddard et al., 2007). However, most of these studies did not include other organizational variables like the present study did and thus, had a less holistic view. This is important to point out because variables that seem to have significant relationships when analyzed individually may yield insignificant relationships when analyzed simultaneously with other variables. For instance, Hoy, Sweetland, and Smiths' study (2002) can be accepted as an example for this phenomenon in which the significant effect of academic press on student achievement was removed when the variable of collective efficacy was added to the analysis.

Moreover, another reason why social interaction was found to have insignificant relationship with student achievement could be that collaborating and taking-decisions together may be opposite of being effective if the staff does not have the necessary skills to communicate in an effective way or if it creates conflict. This, in turn, may result in draining teachers' energy for non-instructional purposes and detract them from instruction (Marks & Louis, 1997).

Briefly, teacher collaboration might be an important concept that contributes to various organizational features of schools; however, according to the findings of this study, its

direct contribution to differences in student achievement between schools is limited. Findings imply that even if it does contribute to student achievement, this is not a direct one.

Another important point to discuss about the findings is that the proposed HLM model explained majority of the between-school variation in student achievement with a value of 60.5%. As a result, proportion of unexplained variation between schools in student achievement decreased to a value of 7.44%. In other words, the HLM model tested in this study has important implications for “where to look” to decrease the school level differences in student achievement to a value even lower than 10%. Thus, these results can be said to have great potential to guide the schools systems such as Turkey’s to provide a better education services and to help actualize the promise of quality education for all.

Briefly, findings of the present study revealed that there was a significant difference in student achievement between public schools of Turkey. Moreover, results also revealed that to decrease this significant difference between schools, collective efficacy dimension of academic optimism played the strongest role when compared to the other variables included in the study. Hindering bureaucracy and trust in clients followed collective efficacy in the strength of relationship, respectively. On the other hand, distributed leadership, teacher collaboration, enabling bureaucracy, and academic emphasis did not have a significant relationship with student achievement. Subsequently, the proposed HLM model explained most of the variation in student achievement between schools (60.5%) and decreased the unexplained variation to 7.44%.

5.2 Implications for Practice, Theory, and Research

The purpose of this study was to investigate the relationship between various potentially effective school level variables (i.e. distributed leadership, enabling school structure, teacher collaboration and academic optimism) and student achievement differences between schools and thus, to provide insights on “where to look” to improve the practice, theory and research related to schools effectiveness efforts.

First of all, study results revealed that teacher beliefs matter to improve academic outcomes. According to HLM analysis results, collective efficacy beliefs of the faculty was found to be a significant predictor of student achievement. Based on this finding, it can be argued that more effort is necessary to help teachers believe that they, as the whole faculty, can make a difference in students' lives. Moreover, the professional development seminars for teachers that are regularly organized by Ministry of Education could put more emphasis on encouraging teachers to boost their collective efficacy beliefs.

Moreover, trust in clients was shown to be an important factor in increasing student achievement, as well. Thus, to improve learning outcomes, it could be beneficial to invest more on school-family relationships as faculty trust on the families are shown to be a significant indicator of an increase in student achievement. To this extent, school leaders may consider sparing more budget and time for school-family relations in order to contribute to the academic achievement attainments in their schools. Also, it would be reasonable to suggest that regularly held professional development seminars devote some time to improve the awareness of school faculty about this issue.

Further, academic emphasis was not found to be a significant indicator of student achievement differences between public schools. This finding could be accepted as an indication for a possible need for refinements in the concept of academic optimism. These possible refinements could be especially important for the educational contexts that have highly centralized schools systems such as the case of Turkey. Also, to the best of our knowledge, this study was the first to explore the relationship of the dimensions of academic optimism with student GPA values through a multilevel methodology in Turkey and thus, more study is necessary to contribute to the possible refinement efforts for the effects of academic optimism on student achievement in highly centralized education systems.

Regarding bureaucratic structure, this study, to our knowledge, also played a pioneering role in investigating the formal structures of schools and their direct relation to student achievement for the case of Turkey and hence, it provided important

implications. In terms of research, as it was mentioned through the thesis before, Turkish version of the scale comprised of two factors (enabling and hindering school structures) instead of having one bipolar factor. This let the analysis to test the effects of the two dimensions on student achievement separately in the same model. Thus, contrary to the literature that used the original scale, this study could be argued to have adopted a different approach in terms of research. This way, the results could show a significant relationship for differences in student achievement across schools and hindering bureaucracy and an insignificant relationship with enabling school structure. Although the positive relationship between hindering bureaucracy and student achievement is unexpected in terms of theory, it could be accepted as an implication for the cultural structure of the society and the highly centralized education system of Turkey. For practice, it can be argued that it would be too early to suggest more investment on higher levels of centralization and formalization in schools as this study, to the best of our knowledge, is currently the only study in the case of Turkey to assess the direct relationship of hindering bureaucracy and student GPA scores through a multilevel model.

Distributed leadership was another variable that was not found to be significantly related to student achievement differences between schools. In terms of research methodologies utilized in the literature, the insignificant relationship could be understandable as leadership variables tend to relate to learning outcomes indirectly (Hallinger & Heck, 1998). On the other hand, the negativity of the insignificant relationship between the two variable reminds the warning of Leithwood et al. (2004, p. 7) that “‘Distributed leadership’ is in danger of becoming no more than a slogan unless it is given more thorough and thoughtful consideration.”

Regarding teacher collaboration, study results revealed that the current situation does not seem to let teacher collaboration to have positive effects on differences in student achievement between schools. This could be related to Marks and Louis' (1997) proposition that lack of communication skills or differing goals among teachers may cause the efforts of collaboration to have opposite effects on student achievement. Based on this, it can be put forward that communication skills of teachers could be

emphasized more in the professional development seminars or other events for teacher collaboration to be more effective in promoting student achievement. Moreover, school leadership could play a more active role to support healthy ways of communication among faculty so that collaboration efforts can lead to academic attainment results. Also, differing goals or conflicts among faculty could be decreased by a clear stance and continued reminding of principals on the vision of the organization.

As a side note, it should be noted that the existing literature mostly comprises studies that are conducted in decentralized schooling structures. School effectiveness studies conducted in the schools that function under such unique political and social systems such as the present case of Turkey are very limited. Thus, the implications provided above should especially be taken into consideration for the effectiveness of schools operating under a highly centralized schooling structures.

5.3 Recommendations for Further Studies

Some recommendations are proposed based on the methodological and theoretical limitations of the study.

First of all, the sample of this study included public schools from Adana, a major city located in southern part of Turkey. To have a better picture of the whole country, similar models should be tested in different parts of Turkey. Moreover, Turkey holds some unique political, social and economic characteristics. Accordingly, although the study results provided important implications for countries that hold similar characteristics, their generalizability to different countries should be investigated more. Thus, further studies may test similar models in different countries.

Moreover, the study sample comprised of public schools only. Further studies can focus on private schools and test the validity of the proposed HLM model in the context of private schools. Since private schools may provide better facilities and possibly have different organizational climate and culture, study results may reveal different implications.

Furthermore, possible out-of-school factors such as neighborhood, peer groups or families towards student achievement could not be included in this study. This was partly because no such data is shared neither by the Ministry of National Education nor by schools in the case of Turkey. Thus, this study tried to remedy the situation by using a random selection methodology. Random sample did end up including neighborhoods from very differing socio-economic levels from the poorest to the richest. However, incorporating a variable for the socio-economic status and controlling it through analysis would be a more preferable approach statistically. Further studies investigating the case of Turkey should put effort to include and control non-school factors in their analyses.

Moreover, in terms of analysis, this study tested a multilevel model of school effectiveness using HLM7 software. Multilevel modeling is important to incorporate the natural occurrence of nested data in educational settings to the analysis. On the other hand, this method does not let researchers to test the indirect relationship between the variables in the same level. For example, the study results provided an insignificant relationship between the variables of distributed leadership, teacher collaboration and student achievement differences among schools. However, these variables may have significant indirect relations with student achievement. Utilizing structural equation models could help investigate the indirect relationship among variables; however, this time the hierarchical nature of educational data would not be incorporated into the study. Hence, future studies should consider using multilevel structural equation models in order to get better insights about the indirect relationship between student achievement and various organizational variables without giving up the strength of multilevel modeling methodology.

Also, this study included cross-sectional data on the effectiveness of schools. Future studies may consider including a longitudinal approach. Observing the improvement in student achievement data through time would provide better insights on “what works” in promoting student achievement. Also, longitudinal studies provide the opportunity for observing answers for the question of “how” to improve student achievement.

Finally, as results of the study revealed, most of the variation in student achievement occurred within schools although a significant amount of variation occurred between schools, as well. This study focused on school-level factors that were chosen accordingly with the literature and it intended explaining between-school variation of learning outcomes. However, a great research potential lies in within-school variation of student achievement. Further studies should consider including other variables that may potentially explain within-school variation in learning outcomes. Additionally, although this study explained most of the variation in student achievement between schools, the remaining between-school variation was significant and nonzero, too. Thus, future studies may consider investigating other school-level variables that may explain the remaining variation in student achievement across schools.

REFERENCES

- Adler, P. S., & Borys, B. (1996). Two types of bureaucracy: Enabling and coercive. *Administrative Science Quarterly*, 41, 61–89. <http://doi.org/10.2307/2393986>
- Aktaş, I. (2011). *TIMSS 2007 Verilerine göre öğrencilerin Fen Başarısı ile Öğretmenlerinin özellikleri arasındaki ilişkinin incelenmesi*. (Unpublished master's thesis). Hacettepe University, Ankara.
- Aslan, M., Özer, N., & Ağiroğlu Bakır, A. (2009). Okul kültürüne ilişkin yönetici ve öğretmen görüşleri: Nitel bir araştırma. *Ilkogretim Online*, 8(1), 268–281. Retrieved from <http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:Okul+Kültür+üne+ilişkin+Yönetici+ve+Öğretmen+Görüşleri:+Nitel+Bir+Araştırma#0>
- Aydın, A., Sarıer, Y., & Uysal, Ş. (2014). Evaluation of students' academic achievement in terms of PISA results. *Elementary Education Online*, 13(3), 1065–1074. Retrieved from <http://ilkogretim-online.org.tr>
- Baier, A. (1986). Trust and antitrust. *Ethics*, 96(2), 231. <http://doi.org/10.1086/292745>
- Balcı, A. (2014). *Etkili okul-okul geliştirme: Kuram, uygulama ve araştırma* (7th ed.). Ankara: Pegem Akademi.
- Balım, A. G., Deniz, H., Evrekli, E., & Inel, D. (2010). Turkey's position in terms of classroom teacher activities according to the PISA 2006 results in comparison to other countries. *Procedia - Social and Behavioral Sciences*, 2(2), 2202–2206. <http://doi.org/10.1016/j.sbspro.2010.03.308>
- Balyer, A. (2013). Okul müdürlerinin öğretimin kalitesi üzerindeki etkileri. *Kuram ve Uygulamada Eğitim Yönetimi*, 19(2), 181–214. Retrieved from www.kuey.net
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215. <http://doi.org/10.1037/0033->

- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*. http://doi.org/10.1207/s15326985ep2802_3
- Bandura, A. (1997). *Self-efficacy: the exercise of control*. New York, NY: W.H. Freeman.
- Barker, B. (2007). The Leadership Paradox: Can School Leaders Transform Student Outcomes? *School Effectiveness and School Improvement*, 18(1), 21–43. <http://doi.org/10.1080/09243450601058618>
- Bastian, K. C., & Henry, G. T. (2015). The apprentice: Pathways to the principalship and student achievement. *Educational Administration Quarterly*. <http://doi.org/10.1177/0013161X14562213>
- Bevel, R. K., & Mitchell, R. M. (2012). The effects of academic optimism on elementary reading achievement. *Journal of Educational Administration*, 50(6), 773–787. <http://doi.org/10.1108/09578231211264685>
- Boles, K., & Troen, V. (1994). Teacher leadership in a professional development school. In *American Educational Research Association*.
- Boonen, T., Pinxten, M., Van Damme, J., & Onghena, P. (2014). Should schools be optimistic? An investigation of the association between academic optimism of schools and student achievement in primary education. *Educational Research and Evaluation*, 20(1), 3–24. <http://doi.org/10.1080/13803611.2013.860037>
- Bryk, A. S., & Schneider, B. (2003). Trust in schools: A core resource for school reform. *Educational Leadership*, 60(6), 40–45.
- Buluç, B. (2009). İlköğretim okullarında bürokratik okul yapısı ile okul müdürlerinin liderlik stilleri arasındaki ilişki. *Eğitim ve Bilim*, 34(152), 71–86.
- Byrne, B. M. (2010). *Structural equation modeling with AMOS: basic concepts*,

applications, and programming (2nd ed.). New York: Routledge.

Cerit, Y. (2012). Okulun bürokratik yapısı ile sınıf öğretmenlerinin profesyonel davranışları arasındaki ilişki. *Kuram ve Uygulamada Eğitim Yönetimi*, 18(4), 497–521. Retrieved from www.kuey.net

Chang, I.-H. (2011). A study of the relationships between distributed leadership, teacher academic optimism and student achievement in Taiwanese elementary schools. *School Leadership & Management*, 31(5), 491–515. <http://doi.org/10.1080/13632434.2011.614945>

Cohen, J., & McCabe, L. (2009). School climate: Research, policy, practice, and teacher education. *The Teachers College Record*, 111(1), 180–213. Retrieved from <http://www.tcrecord.org/Content.asp?ContentId=15220>

Coleman, J. S., Campbell, E. Q., Hobson, C. J., McPartland, J., Mood, A. M., Weinfeld, F. D., & York, R. L. (1966). *Equality of educational opportunity*. Washington, DC: US Government Printing Office.

Creemers, B. P. M., & Kyriakides, L. (2006). Critical analysis of the current approaches to modelling educational effectiveness: The importance of establishing a dynamic model. *School Effectiveness and School Improvement*, 17(3), 347–366. <http://doi.org/10.1080/09243450600697242>

Creemers, B. P. M., & Kyriakides, L. (2012). *Improving quality in education: Dynamic approaches to school improvement*. Oxon: Routledge.

Creemers, B. P. M., & Reezigt, G. J. (2005). Linking school effectiveness and school improvement: The background and outline of the project. *School Effectiveness and School Improvement*, 16(February 2015), 359–371. <http://doi.org/10.1080/09243450500234484>

Creemers, B. P. M., Reynolds, D., Stringfield, S., & Teddlie, C. (2003). *World class schools: International perspectives on school effectiveness*. Routledge.

Çoban, D., & Demirtaş, H. (2011). Okulların akademik iyimserlik düzeyi ile öğretmenlerin örgütsel bağlılığı arasındaki ilişki. *Kuram ve Uygulamada Eğitim*

Yönetimi Dergisi, 17(3), 317–348. Retrieved from <http://www.kuey.net/index.php/kuey/article/view/919>

De Maeyer, S., Rymenans, R., Van Petegem, P., van den Bergh, H., & Rijlaarsdam, G. (2007). Educational leadership and pupil achievement: The choice of a valid conceptual model to test effects in school effectiveness research. *School Effectiveness and School Improvement*, 18(2), 125–145. <http://doi.org/10.1080/09243450600853415>

Demir, K. (2014). Öğretmen liderliği lültürü ölçeği: Geçerlik ve güvenilirlik çalışması. *Elementary Education Online*, 13(2), 334–344. Retrieved from <http://ilkogretim-online.org.tr/vol13say2/v13s2m1.pdf>

Deutsch, M. (1958). Trust and suspicion. *Journal of Conflict Resolution*, 2(4), 265–279. <http://doi.org/10.1177/002200275800200401>

Edmonds, R. (1979). Effective schools for the urban poor. *Educational Leadership*, 37(1), 15–24. Retrieved from <http://www.midwayisd.org/cms/lib/TX01000662/Centricity/Domain/8/2.Edmonds Effective Schools Movement.pdf>

Field, A. (2005). *Discovering statistics using SPSS* (2nd editio). Sage Publications.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. (2012). *How to design and evaluate research in education* (8th ed.). New York, NY: McGraw-Hill.

Freiberg, H. J. (1999). *School climate: Measuring, improving and sustaining healthy learning environments*. (H. J. Freiberg, Ed.). Psychology Press.

Frost, T., Stimpson, D. V., & Maughan, M. R. (1978). Some correlates of trust. *The Journal of Psychology*, 99(1st Half), 103–108. <http://doi.org/10.1080/00223980.1978.9921447>

Goddard, R. D. (2001). Collective efficacy: A neglected construct in the study of schools and student achievement. *Journal of Educational Psychology*, 93(3), 467–476. <http://doi.org/10.1037/0022-0663.93.3.467>

- Goddard, R. D. (2003). Relational networks, social trust, and norms: A social capital perspective on students' chances of academic success. *Educational Evaluation and Policy Analysis*, 25(1), 59–74. <http://doi.org/10.3102/01623737025001059>
- Goddard, R. D., Hoy, W. K., & Hoy, A. W. (2000). Collective teacher efficacy: Its meaning, measure, and impact on student achievement. *American Educational Research* ..., 37(2), 479–507. Retrieved from <http://aer.sagepub.com/content/37/2/479.short>
- Goddard, R. D., Hoy, W. K., & Hoy, A. W. (2004). Collective efficacy beliefs: Theoretical developments, empirical evidence, and future directions. *Educational Researcher*, 33(3), 3–13. <http://doi.org/10.3102/0013189X033003003>
- Goddard, R. D., Sweetland, S. R., & Hoy, W. K. (2000). Academic emphasis of urban elementary schools and student achievement in reading and mathematics: A multilevel analysis. *Educational Administration Quarterly*, 36(5), 683–702. <http://doi.org/10.1177/00131610021969164>
- Goddard, Y. L., Goddard, R. D., & Tschannen-Moran, M. (2007). A Theoretical and empirical investigation of teacher collaboration for school improvement and student achievement in public elementary schools. *Teachers College Record*, 109(4), 877–896. Retrieved from <http://www.eric.ed.gov/ERICWebPortal/detail?accno=EJ820449>
- Gronn, P. (2002). Distributed leadership as a unit of analysis. *The Leadership Quarterly*, 13(4), 423–451. [http://doi.org/10.1016/S1048-9843\(02\)00120-0](http://doi.org/10.1016/S1048-9843(02)00120-0)
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th editio). Upper Saddle River, NJ: Pearson Education.
- Hallinger, P. (2003). Leading educational change: Reflections on the practice of instructional and transformational leadership. *Cambridge Journal of Education*, 33(3), 329–352. <http://doi.org/10.1080/0305764032000122005>
- Hallinger, P., & Heck, R. H. (1998). Exploring the principal's contribution to school effectiveness: 1980-1995*. *School Effectiveness and School Improvement*, 9(2), 157–191. <http://doi.org/10.1080/0924345980090203>

Harris, A. (2002). *School improvement: What's in it for schools?* London: Falmer Press.

Harris, A. (2004). Distributed leadership and school improvement: Leading or misleading? *Educational Management Administration & Leadership*, 32(1), 11–24. <http://doi.org/10.1177/1741143204039297>

Harris, A. (2011). System improvement through collective capacity building. *Journal of Educational Administration*, 49(6), 624–636. <http://doi.org/10.1108/09578231111174785>

Harris, A., Leithwood, K., Day, C., Sammons, P., & Hopkins, D. (2007). Distributed leadership and organizational change: Reviewing the evidence. *Journal of Educational Change*, 8, 337–347. <http://doi.org/10.1007/s10833-007-9048-4>

Harris, A., & Muijs, D. (2005). *Improving schools through teacher leadership*. UK: McGraw-Hill Education.

Harris, A., & Spillane, J. P. (2008). Distributed leadership through the looking glass. *Management in Education*, 22(1), 31–34. <http://doi.org/10.1177/0892020607085623>

Heck, R. H., & Hallinger, P. (2009). Assessing the contribution of distributed leadership to school improvement and growth in math achievement. *American Educational Research Journal*, 46(3), 659–689. <http://doi.org/10.3102/0002831209340042>

Heck, R. H., & Hallinger, P. (2010). Testing a longitudinal model of distributed leadership effects on school improvement. *Leadership Quarterly*, 21(5), 867–885. <http://doi.org/10.1016/j.leaqua.2010.07.013>

Hochbein, C. (2011). Overlooking the descent: Operational definition, identification, and description of school decline. *Journal of Educational Change*, 12(3), 281–300. <http://doi.org/10.1007/s10833-010-9135-9>

Hofstede, G. (n.d.). Turkey - Geert Hofstede. Retrieved July 27, 2016, from <https://geert-hofstede.com/turkey.html>

- Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind* (3rd editio). London: McGraw-Hill.
- Hoy, W. K. (2003). An analysis of enabling and mindful school structures: Some theoretical, research and practical considerations. *Journal of Educational Administration*, 41(1), 87–109. <http://doi.org/10.1108/09578230310457457>
- Hoy, W. K. (2012). School characteristics that make a difference for the achievement of all students: A 40-year odyssey. *Journal of Educational Administration*, 50(1), 76–97. <http://doi.org/10.1108/09578231211196078>
- Hoy, W. K., Gage, C. Q., & Tarter, C. J. (2006). School mindfulness and faculty trust: Necessary conditions for each other? *Educational Administration Quarterly*, 42(2), 236–255. <http://doi.org/10.1177/0013161X04273844>
- Hoy, W. K., & Sweetland, S. R. (2001). Designing better schools: The meaning and measure of enabling school structures. *Educational Administration Quarterly*, 37(3), 296–321. <http://doi.org/10.1177/00131610121969334>
- Hoy, W. K., Sweetland, S. R., & Smith, P. a. (2002). Toward an organizational model of achievement in high schools: The significance of collective efficacy. *Educational Administration Quarterly*, 38(1), 77–93. <http://doi.org/10.1177/0013161X02381004>
- Hoy, W. K., Tarter, C. J., & Hoy, A. W. (2006a). Academic optimism of schools: A force for student achievement. *American Educational Research Journal*, 43(3), 425–446. <http://doi.org/10.3102/00028312043003425>
- Hoy, W. K., Tarter, C. J., & Hoy, A. W. (2006b). Academic optimism of schools: A second-order confirmatory factor analysis. In W. K. Hoy & C. Miskel (Eds.), *Contemporary Issues in Educational Policy and School Outcomes*. The United States of America: Information Age Publishiing.
- Hoy, W. K., & Tschannen-Moran, M. (1999). Five faces of trust: An empirical confirmation in urban elementary schools. *Journal of School Leadership*, 9, 184–208. Retrieved from http://people.wm.edu/~mxtsch/Scholarship/JSL_FiveFacesofTrust.pdf

- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1–55. <http://doi.org/10.1080/10705519909540118>
- Hulpia, H., Devos, G., & Rosseel, Y. (2009). The relationship between the perception of distributed leadership in secondary schools and teachers' and teacher leaders' job satisfaction and organizational commitment. *School Effectiveness and School Improvement*, 20(3), 291–317. <http://doi.org/10.1080/09243450902909840>
- Hulpia, H., Devos, G., & Van Keer, H. (2009). The influence of distributed leadership on teachers' organizational commitment: A multilevel approach. *The Journal of Educational Research*, 103(1), 40–52. <http://doi.org/10.1080/00220670903231201>
- Hulpia, H., Devos, G., & Van Keer, H. (2011). The relation between school leadership from a distributed perspective and teachers' organizational commitment: Examining the source of the leadership function. *Educational Administration Quarterly*, 47(5), 728–771. <http://doi.org/10.1177/0013161X11402065>
- IEA. (2011). *Trends in international mathematics and science study*. Retrieved from http://timssandpirls.bc.edu/timss2011/downloads/T11_IR_Mathematics_FullBook.pdf
- Kaiser, R. B., Hogan, R., & Craig, S. B. (2008). Leadership and the fate of organizations. *The American Psychologist*, 63(2), 96–110. <http://doi.org/10.1037/0003-066X.63.2.96>
- Karaman, K., Yücel, C., & Dönder, H. (2008). Öğretmen görüşlerine göre, okullardaki bürokrasi ile örgütsel vatandaşlık arasındaki ilişki. *Educational Administration: Theory and Practice*, (53), 49–74.
- Katzenmayer, M., & Moller, G. (2001). *Awakening the Sleeping Giant. Helping Teachers Develop as Leaders* (2nd ed.). Thousand Oaks, CA: Corwin Press.
- Kılınç, A. Ç., & Özdemir, S. (2015). An inquiry into leadership capacity : The case of Turkish primary schools. *International Online Journal of Educational Sciences*, 7(1), 1–16.

Kirby, M. M., & DiPaola, M. F. (2011). Academic optimism and community engagement in urban schools. *Journal of Educational Administration*, 49(5), 542–562. <http://doi.org/10.1108/09578231111159539>

Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). New York: Guilford Press.

Kondakci, Y., & Sivri, H. (2014). Salient characteristics of high-performing Turkish elementary schools. *Journal of Educational Administration*, 52(2), 254–272. <http://doi.org/10.1108/JEA-12-2012-0136>

Kondakci, Y., Zayim, M., Oldaç, Y. İ., & Şenay, H. H. (2016). Türkiye’de okul müdürlerinin sosyal adalet rolleri. In K. Beycioğlu (Ed.), *Eğitim Yönetimi Araştırmaları*. Paper presented at the Proceedings of 11th Ulusal Eğitim Yönetimi Kongresi, İzmir.

Korkmaz, M. (2006). Liderlik uygulamalarının içsel okul değişkenleri ile öğrenci çıktı değişkenlerine etkisi. *Kuram ve Uygulamada Eğitim Yönetimi Dergisi*, (48), 503–529. Retrieved from <http://www.kuey.net/index.php/kuey/article/view/369>

Krüger, M. L., Witziers, B., & Sleegers, P. (2007). The impact of school leadership on school level factors: Validation of a causal model. *School Effectiveness & School Improvement*, 18(1), 1–20. <http://doi.org/10.1080/09243450600797638>

Kyriakides, L., Creemers, B. P. M., Antoniou, P., & Demetriou, D. (2010). A synthesis of studies searching for school factors: implications for theory and research. *British Educational Research Journal*, 36(5), 807–830. <http://doi.org/10.1080/01411920903165603>

Lakomski, G. (2005). *Managing without leadership: Towards a theory of organizational leadership*. San Diego, CA: Elsevier.

Land, D. (2002). Local school boards under review: Their role and effectiveness in relation to students’ academic achievement. *Review of Educational Research*, 72(2), 229–278.

Leithwood, K., Harris, A., & Hopkins, D. (2008). Seven strong claims about successful

school leadership. *School Leadership & Management*, 28(February 2015), 27–42. <http://doi.org/10.1080/13632430701800060>

Leithwood, K., & Jantzi, D. (1998). Distributed leadership and student engagement in school, ED424645. 55p.

Leithwood, K., & Jantzi, D. (2000). Principal and teacher leadership effects: A replication. *School Leadership & Management*, 20(4), 415–434. <http://doi.org/10.1080/713696963>

Leithwood, K., Louis, K. S., Anderson, S., & Wahlstrom, K. (2004). *Review of research: How leadership influences student learning*. Wallace Foundation. Retrieved from <http://www.wallacefoundation.org/knowledge-center/school-leadership/key-research/Pages/How-Leadership-Influences-Student-Learning.aspx>

Leithwood, K., & Mascal, B. (2008). Collective leadership effects on student achievement. *Educational Administration Quarterly*, 44(4), 529–561. <http://doi.org/10.1177/0013161X08321221>

Leithwood, K., Mascal, B., Strauss, T., Sacks, R., Memon, N., & Yashkina, A. (2007). Distributing leadership to make schools smarter: Taking the ego out of the system. *Leadership and Policy in Schools*, 6(1), 37–67. <http://doi.org/10.1080/15700760601091267>

Leithwood, K., Patten, S., & Jantzi, D. (2010). Testing a conception of how school leadership influences student learning. *Educational Administration Quarterly*, 46(5), 671–706. <http://doi.org/10.1177/0013161X10377347>

Lomos, C., Hofman, R. H., & Bosker, R. J. (2011). Professional communities and student achievement – a meta-analysis. *School Effectiveness and School Improvement*, 22(2), 121–148. <http://doi.org/10.1080/09243453.2010.550467>

Louis, K. S., Dretzke, B., & Wahlstrom, K. (2010). How does leadership affect student achievement? Results from a national US survey. *School Effectiveness and School Improvement*, 21(3), 315–336. <http://doi.org/10.1080/09243453.2010.486586>

Lunenburg, F. C., & Ornstein, A. C. (2011). *Educational administration: Concepts and practices*. Wadsworth Publishing.

Luyten, H., Visscher, A., & Witziers, B. (2005). *School Effectiveness Research: From a review of the criticism to recommendations for further development*. *School Effectiveness and School Improvement* (Vol. 16). <http://doi.org/10.1080/09243450500114884>

Maag Merki, K., Emmerich, M., & Holmeier, M. (2015). Further development of educational effectiveness theory in a multilevel context: from theory to methodology and from empirical evidence back to theory. *School Effectiveness and School Improvement*, 26(1), 4–9. <http://doi.org/10.1080/09243453.2014.938930>

Malloy, J. (2012). *Effects of distributed leadership on teachers' academic optimism and student achievement*. (Unpublished doctoral dissertation). University of Toronto, Toronto. Retrieved from <https://tspace.library.utoronto.ca/handle/1807/34799>

Marks, H. M., & Louis, K. S. (1997). Does teacher empowerment affect the classroom? The implications of teacher empowerment for instructional practice and student academic performance. *Educational Evaluation and Policy Analysis*, 19(3), 245–275. <http://doi.org/10.3102/01623737019003245>

Martin, M. O., Mullis, I. V. S., Foy, P., & Stanco, G. M. (2012). *TIMSS 2011 international results in science*. Chestnut Hill, MA: TIMSS & PIRLS International Study Center.

Mascall, B., Leithwood, K., Straus, T., & Sacks, R. (2008). The relationship between distributed leadership and teachers' academic optimism. *Journal of Educational Administration*, 46(2), 214–228. <http://doi.org/10.1108/09578230810863271>

Mayrowetz, D. (2008). Making sense of distributed leadership: Exploring the multiple usages of the concept in the field. *Educational Administration Quarterly*, 44(3), 424–435. <http://doi.org/10.1177/0013161X07309480>

McGuigan, L., & Hoy, W. K. (2006). Principal leadership: creating a culture of academic optimism to improve achievement for all students. *Leadership and*

Policy in Schools, 5(3), 203–229. <http://doi.org/10.1080/15700760600805816>

McGuinness, R. (2009). The practice of distributed leadership: A bridge from social deprivation to academic achievement? *International Journal of Learning*, 16(5), 67–78.

Messick, P. P. (2012). *Examining Relationships Among Enabling School Structures, Academic Optimism and Organizational Citizenship Behaviors*. (Unpublished doctoral dissertation). Auburn University, Auburn. Retrieved from <http://search.proquest.com/docview/1033785180?accountid=7990&http://pqdd.sinica.edu.tw/twdaoapp/servlet/advanced?query=3520487>

Michaels, R. E., Cron, W. L., Dubinsky, A. J., & Joachimsthaler, E. a. (1988). Influence Of formalization on the organizational commitment. *Journal of Marketing Research*, 25(4), 376–383.

Mishra, A. K. (1996). Organizational responses to crisis: the centrality of trust. In R. M. Kramer & T. R. Tyler (Eds.), *Trust in Organizations: Frontiers of Theory and Research* (pp. 261–287). Thousand Oaks, CA: Sage Publications.

Moeller, G. H., & Charters, W. W. (1966). Relation of bureaucratization to sense of power among teachers. *Administrative Science Quarterly*, 10(4), 444–465. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=4079985&site=ehost-live&scope=site>

Moghari, E. H., Lavasani, M. G., Bagherian, V., & Afshari, J. (2011). Relationship between perceived teacher's academic optimism and English achievement: Role of self-efficacy. *Procedia - Social and Behavioral Sciences*, 15, 2329–2333. <http://doi.org/10.1016/j.sbspro.2011.04.102>

MoNE. (2015). Republic of Turkey Ministry of National Education. Retrieved March 22, 2015, from <http://adana.meb.gov.tr/>

Moolenaar, N. (2012). A social network perspective on teacher collaboration in schools: Theory, methodology, and applications. *American Journal of Education*, 119(November), 7–39. Retrieved from <http://www.jstor.org/stable/10.1086/667715>

- Muijs, D., & Harris, A. (2003). Teacher leadership--Improvement through empowerment?: An overview of the literature. *Educational Management Administration & Leadership*, 31(4), 437–448. <http://doi.org/10.1177/0263211X030314007>
- Mullis, I. V. S., Martin, M. O., Foy, P., & Arora, A. (2012). *TIMSS 2011 international results in mathematics*. Chestnut Hill, MA: TIMSS & PIRLS International Study Center. <http://doi.org/10.1227/01.NEU.0000028086.48597.4F>
- Murphy, J. (2013). The architecture of school improvement. *Journal of Educational Administration*, 51(3), 252–263. <http://doi.org/10.1108/09578231311311465>
- Nezlek, J. B. (2008). An introduction to multilevel modeling for social and personality psychology. *Social and Personality Psychology Compass*, 2(2), 842–860. <http://doi.org/10.1111/j.1751-9004.2007.00059.x>
- Nezlek, J. B. (2011). *Multilevel modeling for social and personality psychology*. SAGE Publications Ltd.
- Nezlek, J. B. (2012). Multilevel modeling for psychologists. In *APA handbook of research methods in psychology. Vol 3: Data analysis and research publication*. (Vol. 3, pp. 219–241). <http://doi.org/10.1037/13621-011>
- OECD. (2009). *Overview of country results in TALIS: Turkey*. Retrieved from <https://www.oecd.org/edu/school/43072807.pdf>
- OECD. (2012a). PISA 2012: Full selection of indicators. Retrieved June 26, 2016, from <http://gpseducation.oecd.org/IndicatorExplorer>
- OECD. (2012b). *PISA 2012 Technical Report*. Retrieved from <https://www.oecd.org/pisa/pisaproducts/PISA-2012-technical-report-final.pdf>
- Özdemir, S. (2012). İlköğretim okullarında okul kültürü ile örgütsel sağlık arasındaki ilişki. *Kuram ve Uygulamada Eğitim Yönetimi Dergisi*, 18(4), 599–620. Retrieved from <http://www.kuey.net/index.php/kuey/article/view/954>

Özdemir, S., & Kılınç, A. Ç. (2014). The relationship between bureaucratic school structure and teachers' level of academic optimism. *Journal of Theory & Practice in Education* ..., 10(1), 1–23. Retrieved from http://eku.comu.edu.tr/eku/files/ornek_makale.docx

Özdemir, S., Sezgin, F., Şirin, H., Karip, E., & Erkan, S. (2010). İlköğretim okulu öğrencilerinin okul iklimine ilişkin algılarını yordayan değişkenlerin incelenmesi. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 38, 213–224. Retrieved from <http://dergipark.ulakbim.gov.tr/hunefd/article/download/5000048351/50000456>
71

Özer, N., & Beycioğlu, K. (2013). Paylaşılan liderlik ölçeğinin geliştirilmesi: Geçerlik ve güvenirlik çalışmaları. *İlköğretim Online*, 12(1), 77–87. Retrieved from <http://dergipark.ulakbim.gov.tr/ilkonline/article/download/5000037806/5000036664>

Özer, N., & Dönmez, B. (2013). Kolaylaştırıcı okul yapısı ölçeğinin Türkçe formunun psikometrik özelliklerinin yeniden değerlendirilmesi. *Pegem Eğitim ve Öğretim Dergisi*, 3(4), 57–68.

Penuel, W. R., Riel, M., Joshi, A., Pearlman, L., Kim, C. M., & Frank, K. a. (2010). The alignment of the informal and formal organizational supports for reform: Implications for improving teaching in schools. *Educational Administration Quarterly*, 46(1), 57–95. <http://doi.org/10.1177/1094670509353180>

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *The Journal of Applied Psychology*, 88(5), 879–903. <http://doi.org/10.1037/0021-9010.88.5.879>

Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods*. Sage Publications.

Raudenbush, S. W., Bryk, A. S., Cheong, Y. F., Congdon, J. R. T., & Toit, M. du. (2011). *HLM 7: Linear and nonlinear modeling*. Scientific Software International. Retrieved from <http://books.google.com/books?hl=en&lr=&id=VdmVtz6Wtc0C&oi=fnd&pg=PA7&dq=HLM+7:+Hierarchical+Linear+and+Nonlinear+Modeling&ots=kTS>

Recepoğlu, E., & Özdemir, S. (2013). Okul müdürlerinin öğretim liderliği davranışları ile okulun örgütsel sağlığı arasındaki ilişki. *Kuram ve Uygulamada Eğitim Yönetimi Dergisi*, 19(4), 629–664. Retrieved from <http://www.kuey.net/index.php/kuey/article/view/986>

Reynolds, D. (2010). *Failiure-free education? The past, present and future of school effectiveness and school improvement*. New York, NY: Routledge.

Reynolds, D., Sammons, P., De Fraine, B., Van Damme, J., Townsend, T., Teddlie, C., & Stringfield, S. (2014). Educational effectiveness research (EER): a state-of-the-art review. *School Effectiveness and School Improvement*, 25(2), 197–230. <http://doi.org/10.1080/09243453.2014.885450>

Robinson, V. M. J. (2008). Forging the links between distributed leadership and educational outcomes. *Journal of Educational Administration*, 46(2), 241–256. <http://doi.org/10.1108/09578230810863299>

Robinson, V. M. J., Lloyd, C. a., & Rowe, K. J. (2008). The impact of leadership on student outcomes: An analysis of the differential effects of leadership types. *Educational Administration Quarterly*, 44(5), 635–674. <http://doi.org/10.1177/0013161X08321509>

Romero, L. S. (2015). Trust, behavior, and high school outcomes. *Journal of Educational Administration*, 53(2), 215–236. <http://doi.org/10.1108/JEA-07-2013-0079>

Rotter, J. B. (1967). A new scale for the measurement of interpersonal trust. *Journal of Personality*, 35(Mh 11455), 651–665. <http://doi.org/10.1111/j.1467-6494.1967.tb01454.x>

Sammons, P., Davis, S., Day, C., & Gu, Q. (2014). Using mixed methods to investigate school improvement and the role of leadership. *Journal of Educational Administration*, 52(5), 565–589. <http://doi.org/10.1108/JEA-10-2013-0121>

Scheerens, J., Bosker, R. J., & Creemers, B. P. M. (2001). Time for self-criticism: on

the viability of School Effectiveness Research. *School Effectiveness and School Improvement*, 12(1), 131–157. <http://doi.org/10.1076/sesi.12.1.131.3464>

Scribner, S. M. P., & Bradley-Levine, J. (2010). The meaning(s) of teacher leadership in an urban high school reform. *Educational Administration Quarterly*, 46(4), 491–522. <http://doi.org/10.1177/0013161X10383831>

Senatra, P. T. (1980). Role Conflict, Role Ambiguity, and Organisational Climate in a Public Accounting Firm. *The Accounting Review*, 4(October).

Sherblom, S. (2006). The relationship between school climate and math and reading achievement. *Journal of Research in Character Education*, 4(1&2), 19–31. Retrieved from <http://books.google.com/books?hl=en&lr=&id=-J7eToLycfgC&oi=fnd&pg=PA19&dq=THE+RELATIONSHIP+BETWEEN+SCHOOL+CLIMATE+AND+MATH+AND+READING+ACHIEVEMENT&ots=JzXlmh53gc&sig=-NQFf4eTguJqjtxgrzgh3sWITMo>

Sinden, J. E., Hoy, W. K., & Sweetland, S. R. (2004). An analysis of enabling school structure: Theoretical, empirical, and research considerations. *Journal of Educational Administration*, 42(4/5), 462. <http://doi.org/10.1108/09578230410544071>

Smith, P. a., & Hoy, W. K. (2007). Academic optimism and student achievement in urban elementary schools. *Journal of Educational Administration*, 45(5), 556–568. <http://doi.org/10.1108/09578230710778196>

Sørli, M.-A., & Torsheim, T. (2011). Multilevel analysis of the relationship between teacher collective efficacy and problem behaviour in school. *School Effectiveness and School Improvement*, 22(2), 175–191. <http://doi.org/10.1080/09243453.2011.563074>

Spillane, J. P. (2005). Distributed leadership. *The Educational Forum*, 69(2), 143–150. <http://doi.org/10.1080/00131720508984678>

Spillane, J. P. (2006). *Distributed leadership*. San Francisco: Jossey-Bass.

Spillane, J. P., Halverson, R., & Diamond, J. (2001). Investigating school leadership

- practice: A distributed perspective. *Educational Researcher*, 30(3), 23–28.
Retrieved from <http://www.jstor.org/stable/3594470>
- Storey, A. (2004). The problem of distributed leadership in schools. *School Leadership & Management*, 24(3), 249–265. <http://doi.org/10.1080/1363243042000266918>
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (6th editio). Boston: Pearson/Allyn & Bacon.
- Tarter, C. J., & Hoy, W. K. (2004). A systems approach to quality in elementary schools: A theoretical and empirical analysis. *Journal of Educational Administration*, 42(5), 539–554. <http://doi.org/10.1108/09578230410554052>
- Teddlie, C., & Reynolds, D. (2000). *The international handbook of school effectiveness research*. Psychology Press.
- Teddlie, C., & Reynolds, D. (2001). Countering the critics: Responses to recent criticisms of School Effectiveness Research. *School Effectiveness and School Improvement*, 12(1), 41–82. <http://doi.org/10.1076/sesi.12.1.41.3458>
- Teddlie, C., & Stringfield, S. (1993). *Schools make a difference: Lessons learned from a 10-year study of school effects*. New York, NY: Teachers College Press.
- Thapa, a., Cohen, J., Guffey, S., & Higgins-D'Alessandro, A. (2013). A review of school climate research. *Review of Educational Research*, 83(3), 357–385. <http://doi.org/10.3102/0034654313483907>
- Thrupp, M. (2001). Sociological and political concerns about School Effectiveness Research: Time for a new research agenda. *School Effectiveness and School Improvement*, 12(1), 7–40. <http://doi.org/10.1076/sesi.12.1.7.3459>
- Timperley, H. S. (2005). Distributed leadership: developing theory from practice. *Journal of Curriculum Studies*, 37(4), 395–420. <http://doi.org/10.1080/00220270500038545>

- Tschannen-Moran, M. (2009). Fostering teacher professionalism in schools: The role of leadership orientation and trust. *Educational Administration Quarterly*. <http://doi.org/10.1177/0013161X08330501>
- Tschannen-Moran, M., Bankole, R. a., Mitchell, R. M., & Moore, D. M. (2013). Student academic optimism: a confirmatory factor analysis. *Journal of Educational Administration*, 51(2), 150–175. <http://doi.org/10.1108/09578231311304689>
- Tschannen-Moran, M., & Hoy, W. K. (1998). Trust in schools: a conceptual and empirical analysis. *Journal of Educational Administration*, 36, 334–352. <http://doi.org/10.1108/09578239810211518>
- Tschannen-Moran, M., & Hoy, W. K. (2000). A multidisciplinary analysis of the nature, meaning, and measurement of trust. *Review of Educational Research*, 70(4), 547–593. Retrieved from <http://rer.sagepub.com/content/70/4/547.short>
- Tschannen-Moran, M., Uline, C., Hoy, A. W., & Mackley, T. (2000). Creating smarter schools through collaboration. *Journal of Educational Administration*, 38(3), 247–272. <http://doi.org/10.1108/09578230010342312>
- TUİK. (2015). Adana Urban Districts. Retrieved May 22, 2016, from tuik.gov.tr
- Turan, S., & Bektaş, F. (2013). The Relationship between School Culture and Leadership Practices. *Eurasian Journal of Educational Research*, (52), 155–168. Retrieved from <http://ejer.com.tr/0DOWNLOAD/pdf/eng/turaneng52.pdf>
- Uzun, S., Bütüner, S. Ö., & Yiğit, N. (2010). 1999-2007 timss fen bilimleri ve matematik sonuçlarının karşılaştırılması : Sınavda en başarılı ilk beş ülke-türkiye örneği. *Ilkogretim Online*, 9(3), 1175–1189.
- Walker, A. D., Lee, M., & Bryant, D. a. (2014). How much of a difference do principals make? An analysis of between-schools variation in academic achievement in Hong Kong public secondary schools. *School Effectiveness and School Improvement*, 25(4), 602–628. <http://doi.org/10.1080/09243453.2013.875044>

- Witziers, B., Bosker, R. J., & Krüger, M. L. (2003). Educational leadership and student achievement: The elusive search for an association. *Educational Administration Quarterly*, 39(3), 398–425. <http://doi.org/10.1177/0013161X03253411>
- Woolfolk Hoy, A. (2012). Academic optimism and teacher education. *The Teacher Educator*, 47(2), 91–100. <http://doi.org/10.1080/08878730.2012.662875>
- Wray, D., & Medwell, J. (2001). *What can teachers of literacy learn from a study of effective teachers?* Paper presented at the 12th European Reading conference, Dublin.
- Wu, J. H., Hoy, W. K., & Tarter, C. J. (2013). Enabling school structure, collective responsibility, and a culture of academic optimism. *Journal of Educational Administration*, 51(2), 176–193. <http://doi.org/10.1108/09578231311304698>
- Xin, T., Xu, Z., & Tatsuoka, K. (2004). Linkage between teacher quality, student achievement, and cognitive skills: A rule-space model. *Studies in Educational Evaluation*, 30(4), 205–223. <http://doi.org/10.1016/j.steduc.2004.09.002>
- Zand, D. E. (1978). Trust and managerial problem solving revisited. *Administrative Science Quarterly*, 17, 229–239. <http://doi.org/10.1177/105960117800300306>
- Zayim, M. (2015). *Modeling public school teachers' change implementation behaviors: Interrelations among change antecedents, change-related affect, commitment to change, and job satisfaction*. (Unpublished doctoral dissertation). Middle East Technical University, Ankara.

APPENDICES

A. Approval Letter from Middle East Technical University Human Subjects Ethics Committee

UYGULAMALI ETİK ARAŞTIRMA MERKEZİ
APPLIED ETHICS RESEARCH CENTER

ORTA DOĞU TEKNİK ÜNİVERSİTESİ
MIDDLE EAST TECHNICAL UNIVERSITY

DUMLUPINAR BULVARI 06800
ÇANKAYA ANKARA/TURKEY
T: +90 312 210 22 91
F: +90 312 210 79 59
ueam@metu.edu.tr
www.ueam.metu.edu.tr

Sayı: 28620816/58-146

04.02.2015

Gönderilen : Doç. Dr.Yaşar Kondakçı
Eğitim Bilimleri Bölümü

Gönderen : Prof. Dr. Canan Sümer
IAK Başkan Vekili

İlgi : Etik Onayı

Danışmanlığını yapmış olduğunuz Eğitim Bilimleri Bölümü öğrencisi Yusuf İktbal Oldaç'ın "Paylaşılan Liderlik, Kolaylaştırıcı Okul Yapısı, Sosyal Etkileşim, Akademik İyimserlik ve Öğrenci Başarısı Arasındaki İlişkinin İncelenmesi" isimli araştırması "İnsan Araştırmaları Komitesi" tarafından uygun görülerek gerekli onay verilmiştir.

Bilgilerinize saygılarımla sunarım.

Etik Komite Onayı
Uygundur
04/02/2015

Prof.Dr. Canan Sümer
Uygulamalı Etik Araştırma Merkezi
(UEAM) Başkan Vekili
ODTÜ 06531 ANKARA

**B. Permission Document from Adana City Directorate of National Education
for Seyhan and Çukurova District**



T.C.
ADANA VALİLİĞİ
İl Milli Eğitim Müdürlüğü

Sayı : 56815420-100-E.5044443
Konu: Tez Çalışması (Yusuf İkbāl OLDAÇ)

14/05/2015

VALİLİK MAKAMINA

İlgi : Orta Doğu Teknik Üniversitesi Öğrenci İşleri Daire Başkanlığının 24/04/2015 tarih ve 54850036-300-1755 sayılı yazısı.

Orta Doğu Teknik Üniversitesi Eğitim Bilimleri Anabilim Dalı Eğitim Yönetmeni ve Planlama Programı, Yüksek Lisans Programı Öğrencisi Yusuf İkbāl OLDAÇ'ın "**Paylaşılan Liderlik, Kolaylaştırıcı Okul Yapısı, Sosyal Etkileşim, Akademik İyimserlik ve Öğrenci Başarısı Arasındaki İlişkinin İncelenmesi**" konulu tez çalışmasını İlimize bağlı ilköğretim okulları ve liselerde uygulamak istediği ile ilgili ilgi yazı ekte sunulmuştur.

İlimiz "İl Araştırma Değerlendirme Komisyonu"nun 12/05/2015 tarihli "Uygundur" raporu doğrultusunda, "**Paylaşılan Liderlik, Kolaylaştırıcı Okul Yapısı, Sosyal Etkileşim, Akademik İyimserlik ve Öğrenci Başarısı Arasındaki İlişkinin İncelenmesi**" konulu tez çalışmasını, eğitim öğretimin aksatılmaması kaydıyla ve okul müdürünün gözetiminde 30 Nisan-30 Kasım 2015 tarihleri arasında ekli listede isimleri belirtilen okullarda yapılması, yapılan çalışma sonucunda oluşturulacak raporun İl ve İlçe Milli Eğitim Müdürlüğüne gönderilmesi Müdürlüğümüzce uygun görülmektedir.

Makamlarınızca da uygun görülmesi halinde olurlarınıza arz ederim.

Turan AKPINAR
Milli Eğitim Müdürü

OLUR
14/05/2015

Cengiz HOROZOĞLU
Vali a.
Vali Yardımcısı

Mücahitler Cad. Yeni Valilik Binası Seyhan / ADANA
Elektronik Ağ : adanamem@meb.gov.tr
E- Posta : dinogretim01@meb.gov.tr

Ayrıntılı bilgi için: Songül Hacırüstemoğlu V.H.K.İ.
Tel : (0 322) 458 83 71 (1231)
Faks : (0 322) 458 83 92 - 95

Bu evrak güvenli elektronik imza ile imzalanmıştır. <http://evraksorgu.meb.gov.tr> adresinden b93f-4797-38fc-bbc1-c026 kodu ile teyit edilebilir.

**C. Permission Document from Adana City Directorate of National Education
for Sarıçam District**



T.C.
ADANA VALİLİĞİ
İl Milli Eğitim Müdürlüğü

Sayı : 98258552-604-E.12304103
Konu: Tez (Yusuf İkbal OLDAÇ)

01/12/2015

VALİLİK MAKAMINA

İlgi : Valilik Makamının 14/05/2015 tarih ve 5044443 sayılı oluru.

Ortadoğu Teknik Üniversitesi Eğitim Bilimleri Anabilim Dalı Yüksek Lisans öğrencisi Yusuf İkbal Oldaç'ın "*Paylaşılan Liderlik, kolaylaştırıcı okul yapısı, sosyal etkileşim, Akademik iyimserlik ve Öğrenci başarısı arasındaki ilişkinin incelenmesi*" konulu tez çalışması kapsamında uygulama yapması ilgi olurla uygun görülmüş ve izin başvurusunda gönderilen okul listelerindeki okulların sayısı yeterli olmadığına dair 11/11/2015 tarihli Yusuf İkbal Oldaç'a ait dilekçe ve ekleri incelenmiş olup;

İlimiz "İl Araştırma Değerlendirme Komisyonu"nun 16/11/2015 tarihli "Uygundur" raporu doğrultusunda, Müdürlüğümüze bağlı Sarıçam ilçesindeki ilkokul, ortaokul ve liselerde "*Paylaşılan Liderlik, kolaylaştırıcı okul yapısı, sosyal etkileşim, Akademik iyimserlik ve Öğrenci başarısı arasındaki ilişkinin incelenmesi*" adlı tez çalışmasını 30 Nisan 2015-30 Kasım 2015 tarihleri arasında eğitim-öğretimin aksatılmasına mahal vermeden çalışmanın yapılması ayrıca yapılan çalışma sonucunda oluşturulacak raporun il ve ilçe milli eğitim müdürlüğüne gönderilmesi, Müdürlüğümüzce uygun görülmektedir.

Makamlarınızca da uygun görülmesi halinde olurlarınıza arz ederim.

Turan AKPINAR
Millî Eğitim Müdürü

OLUR
01/12/2015

Cengiz HOROZOĞLU
Vali a.
Vali Yardımcısı

Elektronik Ağ : <http://adana.meb.gov.tr>

E-posta: arge01@meb.gov.tr

Adres : Döşeme Mahallesi Mücahitler Caddesi Yeni Valilik Binası 01130 Seyhan / Adana

Tel: (0 322) 458 83 71 - 1666

Faks: (0 322) 458 83 71

Bu evrak güvenli elektronik imza ile imzalanmıştır. <http://evraksorgu.meb.gov.tr> adresinden 4e73-98c5-38cd-ufa6-b9c7 kodu ile teyit edilebilir.

D. Informed Consent Form

Paylaşılan Liderlik, Kolaylaştırıcı Okul Yapısı, Sosyal Etkileşim, Akademik İyimserlik ve Öğrenci Başarısı Arasındaki İlişkinin İncelenmesi Anket Formu

Değerli katılımcı,

Bu çalışma ODTÜ araştırma görevlisi Yusuf İkbal Oldaç tarafından yüksek lisans tez çalışması kapsamında Doç. Dr. Yaşar Kondakçı danışmanlığında yürütülmektedir. Çalışmanın amacı okulların gelişimi için bir model oluşturmaktır. Çalışmanın sonuçlarının, okulların eğitim kalitesinin iyileştirilmesine yönelik öneriler geliştirilmesine katkı sağlaması hedeflenmektedir. Dolayısıyla çalışmada elde edilecek sonuçlar, okullardaki eğitim kalitesini iyileştirme konusunda önermelerde bulunabilecektir.

Bu formda, yukarıda belirtilen amaca yönelik ifadeleri içeren bir anket bulunmaktadır. Anketin tamamının cevaplandırılması yaklaşık 10 dakika sürmektedir. Anketin her bir kısmındaki ifadeleri okuyup, kendi durumunuzu, gözlemlerinizi ve düşüncelerinizi göz önüne alarak sizi en iyi yansıtan tercihleri işaretlemenizi rica ederim.

Bu çalışmaya katılım gönüllülük esasına dayanmaktadır. Anket formuna kimliğinizi açık edecek herhangi bir bilgi yazmanız gerekmemektedir. Katılımcıların sağladıkları bilgiler sadece araştırmacılar tarafından incelenecektir ve sadece bilimsel amaçla kullanılacaktır. Elde edilecek bilgiler başka hiçbir amaç için kullanılmayacak ve başka kişi ve kurumlarla paylaşılmayacaktır. Araştırmacılara sormak istediğiniz ek bilgiler için aşağıdaki iletişim adresini kullanabilirsiniz.

Çalışmaya sağladığınız katkı için şimdiden teşekkür ederiz.

Bu çalışmaya tamamen gönüllü olarak katılıyorum ve istediğim zaman yarıda kesip çıkabileceğimi biliyorum. Verdiğim bilgilerin bilimsel amaçlı yayımlarda kullanılmasını kabul ediyorum. (Formu doldurup imzaladıktan sonra uygulayıcıya geri veriniz).

Adı Soyadı

Tarih

İmza

.....

---/---/---

.....

Araştırmacı

Araş. Gör. Yusuf İkbal Oldaç

Adres:

Orta Doğu Teknik Üniversitesi, Sosyal Bilimler
Enstitüsü, 06800 Ankara
T: 312 210 3717
E-posta: oyusuf@metu.edu.tr

E. Turkish Summary / Türkçe Özet

Giriş

Okulların öğrenci başarısındaki rolleri eğitim araştırmacılarının ve politika yapıcıların hep ilgi odağında olmuştur. Özellikle Coleman raporunun (Coleman vd., 1966) yayınlanması sonrasında dünyanın birçok noktasından eğitim araştırmacıları okulların öğrenci başarısı üzerindeki etkisini gösterme ve bir bakıma ispatlama çabasına girmişlerdir. Teddlie ve Reynolds (2000) okul etkililiği paradigmasının bu çabaların bir sonucu olarak doğduğunu ileri sürmüşlerdir. Bu doğrultuda, okul etkililiği paradigması temel olarak iki soruya, yani bir okulu neyin “iyi” yaptığına ve nasıl daha fazla okulun “iyi” yapılabileceğine odaklanmıştır (Reynolds vd., 2014). Bu soruları cevaplayabilmek için araştırmacılar eğitim bağlamındaki çeşitli faktörlerin okulların akademik ve/veya sosyal çıktı değişkenleri üzerindeki etkilerini incelemişlerdir.

Yukarıda belirtilen iki soru doğrultusunda, birçok okul etkililiği araştırmacısı Coleman Raporu’nun (1966) öne sürdüğü okulların öğrenci başarısı üzerinde anlamlı bir etkisi olmadığı iddiasının doğru olmadığını kanıtlama çabasına girmişlerdir. Sonraki yıllarda Edmonds, (1979); Brookover vd., (1979); Wisenbaker, (1979); ve Rutter vd., (1979) gibi birtakım öncü çalışmalar bahsi geçen iddianın tam olarak doğru olmadığını göstermişlerdir (aktaran Maag Merki, Emmerich ve Holmeier, 2015). Ek olarak, 1980’li yıllarda yaşanan metodolojik gelişmeler sayesinde okul etkililiği paradigması ilerleme kaydetmiştir (Luyten, Visscher ve Witziers, 2005). Bu metodolojik gelişmeler okul etkililiği araştırmacılarının okul etkilerinin uzun vadede istikrarını, çeşitli çıktı değişkenlerinin tutarlılığını ve bu etkilerin boyutunu ve uzun vade tesirini daha iyi anlamalarına vesile olmuştur. Örneğin, çok seviyeli analizlerin bu dönemde ortaya çıkması alan için önemli gelişmelerden biridir (Reynolds vd., 2014).

Okul etkililiği paradigmasında birçok araştırma yapılmış olmasına rağmen, “bir okulu ‘iyi’ yapan nedir?” ve “Nasıl daha fazla okulu ‘iyi’ yapabiliriz” gibi temel sorular hala

tam olarak cevaplarını bulmuş değildir. Alanyazında konu hakkında teori, uygulama ve metot anlamında doldurulması gereken boşluklar bulunmaktadır. Öncelikle, ampirik olarak test edilmiş ve öğrenci başarısına odaklanan okul etkililiği modelleri alanyazında az bulunmaktadır (Creemers ve Kyriakides, 2006, 2012). Buna ek olarak, Sinden, Hoy ve Sweetland (2004) ve Lomos, Hofman ve Bosker (2011) öğrenci başarısını artırmak için daha iyi imkânlar sunulmasına özenle düzenlenmiş metodolojilerle odaklanmanın önemli bir çaba olduğunu öne sürmüşlerdir. Metodoloji yönünden, alanyazındaki çalışmaların çoğu eğitim verilerinin çok seviyeli doğasını hesaba katmamıştır ki bu durum bu çalışmaların sonuçlarının sınırlı olmasına sebep olmuştur (Raudenbush ve Bryk, 2002; Teddlie ve Stringfield, 1993; Xin, Xu ve Tatsuoka, 2004). Daha da önemlisi, alanyazındaki mevcut çalışmalar merkeziyetçi olmayan eğitim sistemlerini kapsamaktadır. Türkiye'ninki gibi farklı politik, sosyal ve ekonomik bir sistemde faaliyet gösteren merkeziyetçi eğitim sistemleri hakkında sınırlı sayıda çalışma bulunmaktadır (Kondakçı ve Sivri, 2014). Ayrıca, paylaşılan liderlik hakkında etkili ve etkili olmayan okullarda yapılmış yeterli sayıda ampirik çalışma bulunmamaktadır (Robinson, Lloyd ve Rowe, 2008; Timperley, 2005). Ek olarak, Witziers, Bosker ve Krüger'in (2003) gerçekleştirdiği meta analize göre son 10 yılda yapılan çalışmalar liderlik ile öğrenci başarısı arasındaki ilişki hakkında mevcut soruları cevaplamaktan ziyade daha fazla soru üretmiştir. Bundan yanı sıra, okulların etkililiğinde okullardaki formel ve formel olmayan yapıların önemli rolleri vardır (Freiberg, 1999). Fakat ilgili alanyazın tarandığında formel yapı ile öğrenci başarısı arasındaki ilişkiyi inceleyen çalışmalar (örneğin, McGuigan ve Hoy, 2006; Wu, Hoy ve Tarter, 2013) veya formel olmayan yapı ile öğrenci başarısı arasındaki ilişkiyi inceleyen çalışmalar (örneğin Balyer, 2013; Moolenaar, 2012; Özdemir, Sezgin, Şirin, Karip ve Erkan, 2010; Sherblom, 2006) bulunmasına rağmen formel ve formel olmayan yapıların öğrenci başarısına olan etkisini aynı modelde inceleyen çalışmalara pek rastlanmamaktadır. Bunlara binaen, paylaşılan liderlik, formel ve formel olmayan yapılar ve akademik iyimserlik gibi bağımsız değişkenleri kapsayan bir modeli test etmek önem arz etmektedir.

Alanyazındaki bu eksiklikler göz önünde bulundurularak, bu çalışmanın öğrenci başarısına odaklandığı, kapsayıcı bir modeli test ettiği, çok seviyeli bir analiz yöntemini benimsediği ve sonuçlarının özellikle Türkiye'ninki gibi merkeziyetçi eğitim sistemlerine yönelik önermelerde bulunacağı için önemli olduğu söylenebilir. Bu tartışma ışığında, bu çalışma bir grup okul seviyesi bağımsız değişken (paylaşılan liderlik, kolaylaştırıcı okul yapısı, mesleki işbirliği ve akademik iyimserlik) ile Türkiye'deki resmi okullar arasındaki öğrenci başarısı farklılıkları bağımlı değişkeni arasındaki ilişkiyi çok seviyeli bir analiz yöntemi ile incelemeyi amaçlamıştır.

2. Araştırma soruları

Yukarıda sunulan tartışmaya dayanarak, bu çalışma aşağıdaki araştırma sorularına cevap aramıştır:

1. Hangi okul seviyesi değişkenler Türkiye'deki resmi okullar arası öğrenci başarısı farklılıklarıyla ilişkilidir?
 1. Paylaşılan liderlik ile Türkiye'deki resmi okullar arası öğrenci başarısı farklılıkları arasındaki ilişki nedir?
 2. Kolaylaştırıcı okul yapısının alt boyutlarıyla (kolaylaştırıcı bürokrasi ve engelleyici bürokrasi) Türkiye'deki resmi okullar arası öğrenci başarısı farklılıkları arasındaki ilişki nedir?
 3. Öğretmenlerin mesleki işbirliği ile Türkiye'deki resmi okullar arası öğrenci başarısı farklılıkları arasındaki ilişki nedir?
 4. Okulların akademik iyimserliğinin alt boyutlarıyla (öz-yeterlik, güven ve akademik vurgu) Türkiye'deki resmi okullar arası öğrenci başarısı farklılıkları arasındaki ilişki nedir?

Yöntem

Bu çalışma ilişkisel bir araştırma olarak tasarlanmıştır. İlişkisel araştırmalar özellikle iki veya daha fazla değişkenin arasındaki ilişkiyi, değişkenlerde bir manipülasyon

yapmadan incelemek için elverişlidir (Fraenkel, Wallen ve Hyun, 2012). İlişkisel analiz tekniği olarak sunduğu avantajlar dolayısıyla Hiyerarşik Lineer Modelleme (HLM) tekniği kullanılmıştır. Grup içi ve gruplar arası varyasyonu ayırt edebilmesi ve eğitimsel verinin çok seviyeli doğasını analize dâhil edebilmesi HLM analizinin diğer yöntemlere göre sağladığı önemli avantajlardan birkaçıdır (Raudenbush ve Bryk, 2002).

3.1. Örneklem ve Veri Toplama Süreci

Bu çalışmanın evrenini Adana şehrindeki resmi okullar oluşturmaktadır. Mevcut 1642 okuldan rastgele küme örnekleme yöntemi kullanılarak ilkokul ve ortaokullar seçilmiştir. Sonuç olarak örneklem 23053 öğrenci ve 426 öğretmen katılımcı olmak üzere 40 okuldan oluşmuştur.

Çok seviyeli bir analiz yapıldığı için bu çalışma iki katılımcı seviyesine sahiptir. Araştırmanın ikinci seviyesindeki katılımcılar örnekleme bulunan okullardan gönüllü olarak katılan öğretmenlerden oluşmaktadır. Öğretmenlerden toplanan anketler çalıştıkları okullara göre kümelendirilmiştir. Çalışmanın ikinci seviye katılımcılarına okul seviyesi katılımcıları da denilebilir. Çalışmanın birinci seviyesi, başka bir deyişle öğrenci seviyesi, örnekleme bulunan okullarda kayıtlı öğrencilerin genel not ortalamalarından (GNO) oluşmaktadır. Gözlenen okullarda notlandırılan her öğrencinin GNO'su örnekleme dâhil edilmiştir.

GNO puanları ziyaret edilen okulların müdürleri yardımıyla Milli Eğitim Bakanlığı'nın merkezi sisteminden İnternet aracılığıyla temin edilmiştir. Müdürler, GNO puanlarını içeren listeyi araştırmacıya vermeden öğrencilerin kimliklerini ortaya çıkarabilecek her türlü bilgiyi listeden silmiştir. Anonim GNO verileri elde edildikten sonra, müdürün bilgisi dâhilinde çalışmaya gönüllü olarak katılmayı kabul eden öğretmenlere anketler dağıtılmıştır.

3.2. Veri Toplama Araçları ve Ölçüler

Tüm bağımsız değişkenler okul seviyesi değişkenler olarak çalışmaya dâhil edilmiştir. Yani, bu değişkenler için analiz birimi okul olmuştur. Okul seviyesinden veri toplamak için bir demografik form ile önceden geliştirilmiş dört ölçek kullanılmıştır.

3.2.1. Paylaşılan Liderlik Ölçeği. Bu ölçek Özer ve Beycioğlu (2013) tarafından geliştirilmiş olup tek faktör ve 10 adet 5’li Likert tipi maddeden oluşmaktadır. Özer ve Beycioğlu (2013) ölçeğin Cronbach-Alpha güvenirlik değerinin .92 olduğunu raporlamıştır. Mevcut çalışma dâhilinde aynı güvenirlik değeri .94 olarak hesaplanmıştır.

3.2.2. Kolaylaştırıcı Okul Yapısı Ölçeği. Bu ölçek okullardaki bürokratik yapıyı ölçmek için kullanılmıştır. Ölçek ilk olarak Hoy ve Sweetland (2001) tarafından geliştirilmiştir. Mevcut çalışmada ise, ölçeğin Buluç (2009) tarafından Türkçeye uyarlaması yapılan ve Özer ve Dönmez (2013) tarafından psikometrik özellikleri yeniden değerlendirilen versiyonu kullanılmıştır. Ölçeği Türkçe uyarlaması orijinal formunun aksine 2 faktörden oluşmaktadır: kolaylaştırıcı bürokrasi ve engelleyici bürokrasi. Ölçek 12 adet 5’li Likert tipi maddeden oluşmaktadır. Ölçeğin iç tutarlılık değeri kolaylaştırıcı ve engelleyici bürokrasi faktörleri için sırasıyla .92 ve .89 olarak hesaplanmıştır.

3.2.3. Öğretmen Liderliği Kültürü Ölçeğinin Mesleki İşbirliği Alt Boyutu. Bu ölçek okullardaki formel olmayan yapıyı ölçmek için kullanılmıştır. Demir (2014) tarafından geliştirilen ölçek 3 boyuttan oluşmaktadır. Ancak mevcut çalışmada sadece Ölçeğin Mesleki İşbirliği alt boyutu kullanılmıştır. Mesleki İşbirliği boyutu 8 adet 5’li Likert tipi maddeden oluşmaktadır. Mevcut çalışmada ölçeğin Cronbach Alpha güvenirlik katsayısı .91 olarak hesaplanmıştır.

3.2.4. Okulların Akademik İyimserlik Ölçeği. Ölçeği ilk olarak Hoy, Tarter ve Woolfolk-Hoy (2006) geliştirmiştir. Türkçe adaptasyonunu ise Çoban ve Demirtaş (2011) gerçekleştirmiştir. Ölçek orijinalinde olduğu gibi 3 faktörden oluşmaktadır: öz-yeterlik, güven ve akademik vurgu. Ölçek toplamda 19 adet 5’li Likert tipi maddeden

oluşmaktadır. Boyutların Cronbach Alpha güvenirlik değerleri öz-yeterlik, güven ve akademik vurgu için sırasıyla .71, .85, ve .89 olarak hesaplanmıştır.

Genel not ortalaması değerleri. GNO değerleri çalışmanın bağımlı değişkenidir. GNO değerleri öğrencilerin dönem boyunca öğrenim gördükleri tüm derslerden aldıkları puanların ağırlıklı ortalaması hesaplanarak oluşturulmuştur. GNO değerleri öğrenci seviyesi değişkeni olarak çalışmaya dâhil edilmiştir. Bu sebeple, GNO'ların okullara göre ortalamaları alınmamış bireysel skorlar olarak çalışmaya dâhil edilmişlerdir.

3.3. Veri Analizi

Bu çalışma, birden fazla seviyede katılımcıdan elde edilen veri setlerini içermektedir. Bu sebeple, çalışma amaçları doğrultusunda çok seviyeli bir analiz yapılması için HLM7 yazılımından faydalanılmıştır (Raudenbush ve Bryk, 2002). Ayrıca, veri sağlığının test edilmesi amacıyla HLM analizi gerçekleştirilmeden önce kayıp veri analizi yapılmış, iki değişkenli korelasyonlar hesaplanmış ve 7 faktörlü bir ölçme modeli test edilmiştir. Bu ön analizlerden kabul edilebilir sonuçlar elde edildikten sonra HLM analizi gerçekleştirilmiştir.

Esas HLM analizine geçmeden önce Raudenbush ve Bryk'in (2002) tavsiyelerine uyularak HLM7 yazılımı aracılığıyla koşulsuz bir model oluşturulmuştur. En basit şekilde anlatılacak olursa, koşulsuz model herhangi bir seviyede bağımsız değişken bulundurmayan bir modeldir. Bu adım, okul içi ve okullar arası öğrenci başarısını ayırt etme ve esas varyasyonun nerede olacağı hakkında fikir sahibi olma konusunda önemlidir (Nezlek, 2011, 2012).

Bu adımın ardından esas HLM analizi gerçekleştirilmiştir. Esas analizde öğrenci GNO'ları birinci seviyedeki bağımsız değişkenler olarak ayarlanmıştır. Paylaşılan liderlik, öğretmenlerin mesleki işbirliği, kolaylaştırıcı okul yapısının alt boyutları ve okulların akademik iyimserliğinin alt boyutları okul seviyesi bağımsız değişkenler olarak analize dâhil edilmişlerdir. Çalışma odağında okullar arası başarı farklılıklarını açıklamak olduğu için öğrenci seviyesine bağımsız değişken eklenmemiştir.

3.4. Çalışma Sınırlılıkları

Sonuçlar çalışma sınırlılıkları ile birlikte değerlendirilmelidir. Çalışmanın bir sınırlılığı aile, akran grupları gibi öğrenci başarısı üzerinde etkisi olabilecek okul dışı faktörleri analize dâhil etmemiş olmasıdır. Bu olası faktörlerin çalışmaya dâhil edilmemiş olmasının en önemli sebebi gerekli verinin elde edilebileceği bir veri kaynağının bulunmamasıdır. Konu hakkında öğrenci öz-bildirim ölçeği kullanma yöntemiyle örneklem büyüklüğü sebebiyle ($N=23053$) mümkün olmamıştır.

Ek olarak, çalışmada okul etkililiği göstergesi olarak ağırlıklı puan ortalamaları kullanmıştır. Bahsi geçen gösterge değişkeni, öğrencilerin gördüğü tüm dersleri temsil etmesi ve tek seferde ölçülmemiş olması açısından özellikle seçilmiştir (Maag Merki, Emmerich ve Holmeier, 2015). Ancak bu değerlerin sınırlılıkları da mevcuttur. Bu değerlerin standardize olmaması önemli sınırlılıklarındandır. Bu değerler öğretmen değerlendirmeleri üzerinden hesaplanmaktadır. Ayrıca bu değerler tek seferlik ölçüm sonucu olmasalar da sadece bir dönemi temsil etmektedirler ve önceki yılların performansını yansıtmamaktadır. Ek olarak, bu çalışma uzun periyodik bir çalışma olarak tasarlanmamıştır. Alanyazın, uzun periyodik çalışmaların okul gelişimini takip etme konusunda genel olarak daha elverişli olduğunu ileri sürmektedir (Luyten, Visscher ve Witziers, 2005).

Son olarak, çalışmada test edilen HLM modeli öğrenci seviyesinde bağımsız değişken içermemektedir. Bu sebeple HLM modeli okul içi öğrenci başarısı varyasyonunu hiç açıklamamıştır. Öğrenci seviyesine bağımsız değişken eklenmemesinin bir sebebi, öğrenci demografik verilerinin elde edilememiş olmasıdır. Fakat esas gerekçe, çalışmanın asıl odağının okullar arası öğrenci başarısı farklılıklarını açıklamak olmasıdır.

Bulgular

4.1. Betimsel İstatistik

Çalışma amaçları doğrultusunda hesaplanan betimsel istatistiğe göre öğretmen katılımcılar çoğunlukla kadınlardan oluşmaktadır (63.8%). Öğretmenlerin yaş

ortalaması 39 ($SS=8.03$) ve ortalama  ğretim tecr beleri ise 15.73 ($SS=7.93$) olarak ortaya  ıkmıřtır. Ek olarak,  alıřmaya 23053  ğrencinin GNO'su d h l edilmiřtir. Bu deęerler 0 ile 100 arasında daęılım g stermiřtir. GNO'ların ortalaması 73.7 ($SS=16.04$) olarak hesaplanmıřtır.

Elde edilen verilerin saęlıęını esas analiz  ncesi test etmek amacıyla iki deęiřkenli korelasyonlar hesaplanmıřtır. Bahsi ge en korelasyon katsayılarının hi birinin .70 deęerini ařmadıęı g zlemlenmiřtir. Bu deęerler Field'in (2005)  nerdięi kritik deęer olan .90'nın altındadır.

4.2. Kayıp Veri Analizi

Little'nin MCAR testi, iki deęiřken hari  t m deęiřkenler i in anlamsız sonu lar vermiřtir. Ardından, bir grup katılımcının bu iki deęiřkenle ilgili soruları cevaplamayı reddedip reddetmedięini test etmek i in veri setinde bulunan t m kategorik deęiřkenler (okul seviyesi ve cinsiyet) gruptama deęiřkeni olarak alınıp t-testler ger ekleřtirilmiřtir. Yapılan t-test analizleri gruplar arası anlamlı bir farklılık g stermemiřtir. Bu sebeple, bahsi ge en iki deęiřkende boř bırakılan itemlerin belli bir grubun  nyargısı sonucu olmadıęı sonucuna varılmıřtır. Ek olarak, birinci seviyede hi  kayıp veri olmadıęı i in birinci seviye veri seti i in b yle bir analiz yapılmamıřtır.

4.3.  l me Modeli Sonu ları

Esas HLM analizi yapılmadan  nce  l eklerin model i erisinde  alıřıp  alıřmadıęı 7 fakt rl   l me modeli ile test edilmiřtir (Byrne, 2010). Yapılan modifikasyonlar sonucu  l me modeli kabul edilebilir bir uyum g stermiřtir, $\chi^2(1013)=2299,631$, $p < .05$, $\chi^2/df=2.27$, RMSEA=.051 (90% CI=.048 - .054, $p_{close}=.30$), CFI=.91, TLI=.90.

4.4. HLM Analizi Sonu ları

Esas HLM analizi  ncesi yine aynı yazılım kullanılarak kořulsuz model  retilmiřtir. HLM7 yazılımı bu analiz i in g venirlik skorunu 0.98 olarak g stermiřtir. Beklendięi  zere, sonu lar  ğrenci bařarısının hem okul i inde hem de okullar arasında anlamlı bir varyasyon g sterdięini doęrulamıřtır. Bununla birlikte,  ğrenci bařarısının

çoğunun okul içinde gerçekleştiği de gözlemlenmiştir. Bu bulgu, ilgili alanyazındaki çalışmalarla tutarlıdır (örneğin, Goddard, 2001; Walker, Lee ve Bryant, 2014). Ek olarak, okullar arası öğrenci başarısı varyasyonunun toplam varyasyonun %16.75'ini oluşturduğu gözlemlenmiştir. Daha da önemlisi ki-kare testi sonuçları okullar arası öğrenci başarısı farklılıkları için anlamlı ve sıfır olmayan bir değer göstermiştir ($\chi^2(39, N = 40) = 3788.27, p < .001$). Bu sebeple, bahsi geçen anlamlı ve sıfır olmayan okullar arası farkı açıklamak için esas HLM modelini test etme aşamasına geçilmiştir.

Esas HLM analizi sonuçları okullar arası öğrenci başarısı varyasyonu ile aile ve öğrenciye güven ($p < .05$), kolektif öz-yeterlik ($p < .01$) ve engelleyici bürokrasi ($p < .05$) değişkenleri arasında anlamlı ve pozitif bir ilişki olduğunu ve bu değişkenlerdeki her standart sapma artışın öğrenci başarısında sırasıyla 5.44, 8.16 ve 5.99 puan artışını öngördüğünü göstermiştir. Bunun dışında bulgular okullar arası öğrenci başarısı farklılıkları ile paylaşılan liderlik ($p = 0.44$), öğretmenlerin mesleki işbirliği ($p = 0.95$), kolaylaştırıcı okul yapısı ($p = 0.40$) ve akademik vurgu ($p = 0.09$) değişkenleri arasında anlamlı bir ilişki göstermemiştir.

Dahası, analiz sonuçları test edilen HLM modelinin okullar arası öğrenci başarısı varyasyonunun %60.5'ini açıkladığını ve okullar arası başarı varyasyonu oranını %16.7'den %7.44'e düşürdüğünü göstermiştir. Ayrıca, beklendiği üzere, öğrenci seviyesine bağımsız değişken eklenmediğinden okul içi öğrenci başarısı varyasyonunda bir değişiklik gözlemlenmemiştir. Ek olarak, geriye kalan okullar arası öğrenci başarısı farklılıkları test edilen HLM modeli sonrasında hala istatistiksel olarak sıfıra inmemiştir. Başka bir deyişle, öne sürülen model okullar arası varyasyonun çoğunu açıklamış olsa da kalan varyasyonu açıklamada rol oynayabilecek başka okul seviyesi değişkenlerin olabileceğini söylemek mümkündür.

Tartışma

Çok seviyeli bir analizle gerçekleştirilen bu çalışmanın önemli özelliklerinden biri okullar arası ve okul içi öğrenci başarısı varyasyonunu ayırt edebilmesidir. Çalışma sonuçları açık bir şekilde göstermiştir ki Türkiye resmi okullarında öğrenci başarısı varyasyonunun çoğu okul içinde gerçekleşmektedir. Bu bulgu alanyazına göre

beklenen bir sonuçtur (örneğin, R. D. Goddard, 2001; Walker vd., 2014). Her okulda sorumluluk sahibi ve ilgili öğrencilerin yanı sıra pek de okul aşığı olmayan öğrenciler olabilir. Bu durum, neden bazı öğrencilerin yüksek ve neden bazılarının düşük not aldığını açıklayan sebeplerden biri olabilir.

Bununla birlikte, bu çalışma sebep olabileceği ciddi sonuçlar dolayısıyla okullar arası başarı farklarına odaklanmıştır. Okullar arası başarı varyasyonu, okul içi varyasyona göre daha çok muhit/çevre farklılıklarının veya okullardaki kalite farklılıkları sebebiyle sunulan eşitsiz fırsatların sonucu olma eğilimindedir. Okul kalite farklılıklarından kaynaklanan fırsat eşitsizliği Türkiye'ninki gibi merkeziyetçi eğitim sistemlerinin temel iddialarından biri olan her vatandaşın eğitim hizmetlerinden eşit bir şekilde faydalanacağı iddiasına karşı argümanlar üretmektedir (Kondakçı, Zayim, Oldaç ve Şenay, 2016). Buna dayanarak, çalışma sonuçlarının okullar arası başarı farklılıklarının anlamlı olduğunu göstermesi resmi okulların mevcut durumunun eğitimde fırsat eşitliği argümanlarıyla bağdaşmadığı yönünde yorumlanabilir.

Çalışmanın bir diğer incelediği konu da akademik iyimserliğin öğrenci başarısı ile olan ilişkisidir. Bu konudaki bulgular ilgili alanyazını destekler niteliktedir. Bahsi geçen değişkenin 3 boyutunun da öğrenci başarısı ile pozitif bir ilişkide olduğu gözlemlenmiştir. Fakat bu ilişkilerden yalnızca ikisi anlamlı bir şekilde öğrenci başarısını yordamıştır. Kolektif öz-yeterlik değişkeni diğerlerine göre öğrenci başarısının en güçlü yordayıcısı olmuştur. Kolektif öz-yeterlikte bir skor artış, öğrenci GNO'larında 8.16 puan artışı anlamına gelmektedir ($p < .01$).

Aileye ve öğrenciye olan güven değişkeninin de öğrenci başarısı üzerinde önemli bir yordayıcı olduğu gözlemlenmiştir. Güven değişkeninde bir skor artışın öğrenci GNO'larında 5.44 puan yükselme anlamına geldiği görülmüştür ($p < .05$). Bu bulgu, okul-aile işbirliğinin Türkiye resmi okullarında öğrenci başarısı üzerinde önemli rol oynayabileceği şeklinde yorumlanabilir.

Buna ek olarak, akademik vurgu ile öğrenci başarısı arasında pozitif bir ilişki gözlemlenmiş olsa da bu ilişkinin istatistiksel olarak anlamlı olmadığı görülmüştür ($p = .09$). Bunun bir açıklaması analize diğer bağlantılı değişkenlerin dâhil edilmesi

olabilir. Sosyal bilimlerde birbiri ile bağlantılı olmayan değişken bulmak pek mümkün değildir. Ek olarak, analize ortaokullarla birlikte ilkokulların da dâhil edilmesi akademik vurgunun öğrenci başarısı üzerinde anlamlı bir etki sahibi olmaması konusuna başka bir açıklama olarak öne sürülebilir. Okul yapısını kontrol altında tutmak için liseler analize dâhil edilmemişti fakat aynı karar ilkokullar için alınmamıştır. İlkokullar, ortaokullar kadar akademik odaklı değildir.

Çalışmanın bir başka bulgusu da paylaşılan liderliğin öğrenci başarısı üzerinde anlamlı bir yordayıcı olmadığıdır ($p=0.44$). Bu sonucun arkasında birçok sebep olduğu söylenebilir. Anlamlı bir ilişki bulunmamasının bir sebebi liderliğin doğası gereği öğrenci başarısını direkt şekilde etkilemediği olarak ileri sürülebilir. Hallinger ve Heck'e (1998) göre liderlik öğrenci başarısını diğer okul seviyesi değişkenler üzerinden dolaylı olarak etkilemektedir. Dahası alanyazındaki bazı çalışmalar liderlik ile öğrenci başarısı arasında zayıf bir bağlantı olduğunu ya da bağlantı olmadığını öne sürmüşlerdir (örneğin, Kyriakides vd., 2010). Ek olarak, bu bulgular paylaşılan liderliğin öğrenci başarısı üzerindeki etkisi konusunda birtakım araştırmacıların kuşkulu ifadelerini destekler niteliktedir (örneğin, Harris, 2011; Harris, Leithwood, Day, Sammons ve Hopkins, 2007). Bu tartışmaya dayanılarak, çalışma sonuçlarının alanyazını destekler nitelikte olduğu söylenebilir.

Ayrıca, öğrenci başarısı için kullanılan ölçütler de paylaşılan liderliğin öğrenci başarısı üzerinde etkili olmaması arkasındaki sebeplerden olabilir. Örneğin okul liderleri derin öğrenmeyi teşvik ediyor olabilir fakat bu kısa vadede sonuçlara aksamıyor olabilir. Sonuç olarak, liderin gerçek etkililiği sadece GNO'ları kriter olarak alan bir "radar"da görünmüyor olabilir (Barker, 2007).

Dahası, Spillane (2006) liderliği öğrenci başarısı üzerinden değerlendirme yaklaşımını eleştirmiştir. Adı geçen yazara göre nasıl öğrenciler ders sonunda bir şeyler öğrenmemiş olsa da öğretmenlerin ders vaktinde yaptıklarına "öğretmek" deniyorsa, liderlik de böyle algılanmalıdır. Spillane yayınlarında da belirttiği üzere paylaşılan liderliğin öğrenci başarısı üzerindeki etkisi konusunda herhangi bir iddiada bulunmaktadır (örneğin, Spillane, 2005, 2006). Adı geçen yazar paylaşılan liderliğin

daha çok okullardaki liderlik hakkında düşünmek ve çalışma tasarlamak için bir çerçeve olduğunu ileri sürmüştür.

Bunların yanı sıra, paylaşılan liderliğin okulların birçok organizasyonel özellikleri üzerinde etkili olduğu öne sürülmüştür (Hulpia, Devos ve Rosseel, 2009; Hulpia, Devos ve Van Keer, 2011, 2009; Mascall, Leithwood, Straus ve Sacks, 2008). Dahası, mevcut çalışma bulguları da paylaşılan liderlik değişkeninin diğer okul seviyesi değişkenlerle beklenen yönde ikili ilişkide olduğunu göstermiştir. Bu bulgular, Krüger, Witziers ve Sleegers'in (2007) liderliğin çeşitli organizasyonel değişkenlerle karşılıklı olarak ilişkili olduğu bulgularını destekler niteliktedir. Bu tartışmaya dayanarak, paylaşılan liderliğin liderlik konusunda önemli bir düşünme çerçevesi oluşturduğu ve öğrenci başarısı üzerinde direkt etkisinin olmamasının onun önemsiz bir kavram olduğu anlamına gelmediği öne sürülebilir.

Mevcut çalışmanın bir diğer önemli bulgusu da engelleyici bürokrasiyle öğrenci başarısı arasında anlamlı, kolaylaştırıcı bürokrasiyle öğrenci başarısı arasındaysa anlamsız bir ilişki olduğunu ortaya çıkarmasıdır. Bu bulgu, Baumeister, Bratslavsky, Finkenauer ve Vohs'un (2001) olumsuz durum/duyguların olumlu olanlarına oranla çok daha etkili olduğu iddiasını destekler niteliktedir. Bu doğrultuda, kolaylaştırıcı bürokrasi öğrenci başarısı ile pozitif bir ilişkide olsa da bu ilişki istatistiksel olarak anlamlı bulunmamıştır.

Bunun yanında, engelleyici bürokrasinin öğrenci başarısının pozitif ve anlamlı bir yordayıcı olması ilgi çeken bulgular arasındadır. Engelleyici bürokraside her bir puanlık artışın öğrenci başarısında 5.99 puan artışı anlamına geldiği gözlemlenmiştir ($p < .05$). Bu bulgu farklı şekillerde yorumlanabilir. İlk olarak, Türkiye bağlamında kolaylaştırıcı okul yapısının diğer okul seviyesi değişkenlerle ilişkisi incelenmiş olsa da öğrenci başarısıyla direkt ilişkisini inceleyen başka bir ampirik çalışma bulunmadığını not düşmek gerekmektedir. Başka bir deyişle, mevcut çalışma bu ilişkiyi Türkiye'de irdeleyen ilk çalışmadır. Bu sebeple, konu hakkında daha derin bilgi elde etmek için daha fazla çalışmaya ihtiyaç vardır.

Engelleyici bürokrasi ile öğrenci başarısı arasındaki pozitif ilişki kültürel sebeplerle açıklanabilir. Bahsi geçen değişkenin öğrenci başarısı üzerindeki etkisinin her kültürde aynı şekilde sonuç vermesini beklemek doğru bir yaklaşım değildir. Kaldı ki bahsi geçen kavramı ilk ortaya atanlardan olan Hoy ve Sweetland'ın (2001) dahi kavram hakkında kültürün önemini kabul ediyor olması bu durumu destekler niteliktedir. Bu sebeple, çalışma sonuçlarının çalışmanın gerçekleştirildiği bağlamı yansıttığını ve buna göre değerlendirilmeleri gerektiği söylenebilir.

Engelleyici bürokrasi ile öğrenci başarısı arasındaki pozitif ilişki TEOG ve benzeri ulusal sınavlarla da açıklanabilir. TEOG ve benzeri sınavlar ortaokul ve ilkokul yönetimleri üzerine önemli bir yükümlülük yüklemektedir. Bu sebeple, bu okullardaki yöneticiler, öğretmenlere öğrencileri bu gibi sınavlara iyi hazırlamaları konusunda baskı yapma eğiliminde olabilirler ve bu durum engelleyici bir okul yapısını tetikleyebilir. Bu yolla, engelleyici okul yapısı öğrenci başarısını olumlu etkiliyor olabilir.

Ek olarak, mevcut çalışma sonuçlarının bir ilişki analizi sonucu olduğu unutulmamalıdır. Yani, engelleyici bürokrasi ile öğrenci başarısı arasında yordayıcı bir ilişki olduğu öne sürülse de sebep-sonuç ilişkisi öne sürülmemektedir. Buna dayanarak, engelleyici bürokrasinin öğrenci başarısı artışına sebep olduğunu iddia etmek bu çalışma kapsamında ne mümkündür ne de hedeflenmiştir.

Öğretmenlerin mesleki işbirliği ile okullar arası öğrenci başarısı farklılıkları arasında anlamlı bir bağlantı bulunmaması da çalışmanın önemli bulgularındandır. Bu bulgu daha önce yapılan çalışmalarda benzer sonuçların alınması sebebiyle büyük bir sürpriz oluşturmamıştır (örneğin, Marks ve Louis, 1997). Ek olarak, alanyazında öğrenci başarısı ile öğretmen işbirliği arasında pozitif bir ilişki bulan çalışmalar da bulunmaktadır (örneğin, Goddard vd., 2007). Ancak bu çalışmaların çoğu mevcut çalışmadaki gibi diğer okul seviyesi değişkenleri analizlerine dâhil etmemiş ve dolayısıyla mevcut çalışmadaki gibi bütüncül bir resim sunmamışlardır. Bunu belirtmek önemlidir çünkü tek başlarına analiz edildiğinde anlamlı bir ilişkiye sahip

gibi görünen değişkenler başka değişkenlerle birlikte analiz edildiklerinde istatistiki olarak anlamsız sonuçlar verebilmektedir (örneğin, Hoy, Sweetland ve Smith, 2002).

Mesleki işbirliği ile öğrenci başarısı arasında anlamlı bir ilişki olmamasının bir başka sebebi de öğretmenlerin efektif bir şekilde iletişim kurabilme yeteneklerine sahip olmamaları veya işbirliği ve ortak karar alma süreçlerinin çıkar çatışmalarından etkilenmesi olabilir. Bu sebepler dolayısıyla mesleki işbirliği çabaları öğretmenlerin enerjisinin eğitim dışı amaçlar için tüketilmesi ile sonuçlanabilir (Marks ve Louis, 1997).

Bununla birlikte, alanyazın göz önünde bulundurulduğunda, araştırmacıların öğrenci başarısı ile öğretmenlerin mesleki işbirliği arasında bir bağlantı olduğuna inanma eğiliminde oldukları söylenebilir. Bundan yola çıkılarak, mevcut çalışma sonuçlarının sadece direkt ilişkiyi reddetmesi gerekçesiyle, iki değişken arasındaki dolaylı ilişkilerin incelenmesi önerilebilir.

Son olarak, çalışma kapsamında test edilen HLM modeli okullar arası öğrenci başarısı farklılıklarının %60.5'ini açıklamıştır. Bunun sonucu olarak, toplam varyasyon içinde açıklanmamış okullar arası öğrenci başarısı varyasyonu %7.44 değerine düşmüştür. Buna dayanarak, mevcut çalışma sonuçları okullar arası öğrenci başarısı farklılıklarını azaltma hususunda neler yapılabileceği konusunda önemli sonuçlar sunduğu ileri sürülebilir. Dolayısıyla bu çalışmanın herkes için kaliteli eğitim sağlanması konusunda Türkiye'ninki gibi merkeziyetçi eğitim sistemlerine rehberlik etmekte önemli bir potansiyele sahip olduğu söylenebilir.

Çıkarım ve Öneriler

Çalışma sonuçları öğretmen inançlarının öğrenci başarısı üzerinde etkili olduğunu göstermiştir. Bu bulguya dayanılarak, öğretmenlerin öğrencilerin hayatında fark yaratabileceklerine olan algıları daha fazla önemsenmeli ve bu konuya daha fazla yatırım yapılmalıdır. Bu konuda yapılan mesleki gelişim seminerlerinde öğretmenlerin kolektif öz-yeterlik algılarının desteklenmesi ve artırılması üzerinde daha fazla durulabilir.

Öğretmenlerin aileye ve öğrenciye olan güveninin öğrenci başarısı üzerinde etkili olduğu da çalışma sonuçları arasındadır. Buna dayanarak okul-aile işbirliğine daha fazla ağırlık verilmesi gerektiği söylenebilir. Bu amaç doğrultusunda okul liderleri okul-aile ilişkilerine daha fazla vakit ve bütçe ayırmayı gözden geçirebilirler. Ek olarak, mesleki gelişim seminerlerinde öğretmenlerin konu hakkındaki farkındalığının artırılmasına daha fazla vakit ayırabilir.

Bunların dışında, akademik vurgu ile okullar arası öğrenci başarısı farklılıkları arasında anlamlı bir ilişki bulunmamıştır. Bu sonuç, akademik iyimserlik gibi ademi merkeziyetçi bir eğitim sisteminde geliştirilmiş olan kavramların merkeziyetçi sistemlerde de geçerli olmasını sağlamak açısından revizyona tabi tutulması hususuna bir işaret olarak kabul edilebilir. Dahası, bu çalışma Türkiye bağlamında akademik iyimserlik ile öğrenci başarısı arasındaki ilişkiyi çok seviyeli bir analizle irdeleyen bilgimiz dâhilindeki ilk çalışma olduğu için bahsi geçen revizyon çabalarına katkı sağlaması açısından daha fazla çalışmaya ihtiyaç olduğu söylenebilir.

Ayrıca engelleyici bürokrasi ile öğrenci başarısı arasında pozitif bir ilişkinin bulunması her ne kadar teori bakımından beklenmedik bir sonuç olsa da, toplumun kültürel yapısı ve yüksek derecede merkeziyetçi olan eğitim sisteminin bir sonucu olarak algılanabilir. Okullardaki bürokratik yapı ile öğrenci başarısı arasındaki ilişki konusunda mevcut çalışma Türkiye bağlamında yapılan çalışmalar arasında ilklerden olduğundan uygulama açısından bir önermede bulunmak için henüz erken olduğu söylenebilir. Konu hakkında açık bir şekilde daha fazla çalışmaya ihtiyaç bulunmaktadır.

Paylaşılan liderlik okullar arası öğrenci başarı farklılıkları ile anlamlı bir ilişki içerisinde bulunmayan bir diğer değişken olarak gözlemlenmiştir. Alanyazındaki çalışmaların liderliğin öğrenci başarısını dolaylı yünden etkilediği önerisi (örneğin, Hallinger ve Heck, 1998) göze alındığında, paylaşılan liderliğin öğrenci başarısını direkt olarak anlamlı bir şekilde yordamamasının anlaşılabilir olduğu söylenebilir. Ancak bu ilişkinin istatistiksel olarak anlamsız ve aynı zamanda negatif olarak sonuçlanması Leithwood, Louis, Anderson ve Wahlstrom'un (2004) daha detaylı ve

derin bir şekilde üzerinde durulmazsa paylaşılan liderliğin slogan olmaktan daha ileri gidemeyeceği eleştirisini akıllara getirmektedir.

Öğretmenlerin mesleki işbirliği konusuna gelince, çalışma sonuçlarına göre mevcut durumun öğretmen işbirliğinin öğrenci başarısı üzerinde pozitif etki sahibi olmasına müsaade etmediği öne sürülebilir. Bu çıkarım Marks ve Louis'in (1997) öğretmenler arasında farklılık gösteren hedeflerin ve öğretmenlerin etkili iletişim kurma konusunda yeterli becerilere sahip olmamasının işbirliği ve birlikte karar almayı olduğundan daha zor hale getirdiği iddiasıyla bağdaştırılabilir. Buna dayanılarak, mesleki gelişim seminerlerinde iletişim becerilerinin daha fazla vurgulanması mesleki işbirliğinin öğrenci başarısı üzerinde daha etkili olmasını sağlamak açısından faydalı olabilir. Ayrıca liderlerin okulun misyonu ve vizyonu konusunda açık duruşu ve bu konularda sürekli hatırlatmalarda bulunmaları öğretmenler arasında farklılık gösteren hedef algılarını ve çıkan anlaşmazlıkları azaltma konusunda faydalı olabilir.

F. Tez Fotokopisi İzin Formu

ENSTİTÜ

Fen Bilimleri Enstitüsü

☐

Sosyal Bilimler Enstitüsü

☒

Uygulamalı Matematik Enstitüsü

☐

Enformatik Enstitüsü

☐

Deniz Bilimleri Enstitüsü

☐

YAZARIN

Soyadı : Oldaç

Adı : Yusuf İkbāl

Bölümü : Eğitim Bilimleri

TEZİN ADI (İngilizce) : THE RELATIONSHIP BETWEEN DISTRIBUTED LEADERSHIP, ENABLING SCHOOL STRUCTURE, TEACHER COLLABORATION, ACADEMIC OPTIMISM AND STUDENT ACHIEVEMENT: A SCHOOL EFFECTIVENESS MODEL

TEZİN TÜRÜ : Yüksek Lisans

☒

Doktora

☐

1. Tezimin tamamından kaynak gösterilmek şartıyla fotokopi alınabilir. ☐
2. Tezimin içindekiler sayfası, özet, indeks sayfalarından ve/veya bir bölümünden kaynak gösterilmek şartıyla fotokopi alınabilir. ☐
3. Tezimden bir (1) yıl süreyle fotokopi alınamaz. ☒

TEZİN KÜTÜPHANEYE TESLİM TARİHİ: