



The Relationship between Sustainable Leadership and Perceived School Effectiveness: The Mediating Role of Work Effort

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Abstract

This study investigates the mediator role of teachers' work effort in the relationship between sustainable leadership and perceived school effectiveness. It employs the relational survey model. The data was obtained from a study group of 411 teachers. Three different measures were used in the study: "Sustainable Leadership Scale", "Perceived School Effectiveness Scale" and "Work Effort Scale". The findings showed that principals' sustainable leadership scores were above moderate level except for social sustainability. On the other hand, teachers perceived their school as effective and their work effort above moderate level. It was also found that there were significant positive high and moderate level correlations among variables. Sustainable leadership predicted both perceived school effectiveness and work effort. Finally, it was determined that work effort did not have a mediator role in the relationship between sustainable leadership and perceived school effectiveness.

Sürdürülebilir Liderlik ve Algılanan Okul Etkililiği Arasındaki İlişki: İş Gayretinin Aracı Rolü

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Öz

Araştırma, öğretmenlerin iş gayretinin sürdürülebilir liderlik ve algılanan okul etkililiği arasındaki ilişkide aracı rolünü incelemektedir. İlişkisel tarama modelini esas alan çalışmada veriler 411 öğretmenden oluşan bir çalışma grubundan elde edilmiştir. Veri toplamak amacıyla "Sürdürülebilir Liderlik Ölçeği", "Algılanan Okul Etkililiği Ölçeği" ve "İş Gayreti Ölçeği" kullanılmıştır. Elde edilen bulgular, öğretmen algılarına göre okul müdürlerinin sürdürülebilir liderlik davranışlarının sosyal sürdürülebilirlik boyutu haricinde ortalama üzerinde bir düzeyde olduğunu göstermektedir. Benzer biçimde algılanan okul etkililiği ve öğretmen iş gayreti de ortalama düzeyin üzerindedir. Araştırmada ele alınan değişkenler arasında istatistiksel olarak anlamlı, pozitif yönlü, yüksek ve orta düzeyde ilişkiler olduğu görülmüştür. Sürdürülebilir liderliğin hem algılanan okul etkililiğini hem de öğretmen iş gayretini anlamlı bir biçimde yordadığı; ancak iş gayretinin sürdürülebilir liderlik ile algılanan okul etkililiği arasında aracı rolünün bulunmadığı tespit edilmiştir.

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Introduction

Sustainable development is unavoidable for contemporary organizations and it is emphasized as a responsibility of leaders (Šimanskienė & Župerkienė, 2014). Sustainability can be conceptualized as the long-lasting or institutionalization of an innovation or practice (Balci, 2016). In the literature sustainability is addressed in terms of financial, social, ethics, politics etc. (Šimanskienė & Župerkienė, 2014). “*Sustainable leadership*” is thought to enliven with proper leadership behaviors, and it has come into question as a result of using the term sustainability with leadership. Defined as the ability of maintaining organizational values in a more persuasive and efficient manner, sustainable leadership relies on the rationale that organizational durability does not appertain to a leader and leadership pass from a leader to another one (Çetin & Çayak, 2018). Having capital importance not only for present-day society but also for existence and durability of next generations, sustainable leadership does not depend on the ability and determination of a single leader, but it requires a continuous and cumulative effort and concern. For this reason, it can be said that the practice of sustainable leadership is not simple and harbors several principles (Šimanskienė & Župerkienė, 2014; Yangil, 2016). These principles can be listed as follows (Hargreaves & Fink, 2003);

- *Sustainable leadership creates and preserves sustaining learning,*
- *Sustainable leadership secures success over time,*
- *Sustainable leadership sustains the leadership of others,*
- *Sustainable leadership addresses issues of social justice,*
- *Sustainable leadership develops rather than depletes human and material resources,*
- *Sustainable leadership develops environmental diversity and capacity,*
- *Sustainable leadership undertakes activist engagement with the environment.*

Leaders must be sustainable economically, socially, administratively and culturally in order to render their organizations sustainable within the principles mentioned above (Çetin & Çayak, 2018). In line with this requirement, we address sustainable leadership in terms of managerial, economic, cultural and social sustainability. *Managerial sustainability* can be characterized as creating a cooperative organizational climate through positive relations and managing organizational change successfully by providing necessary support for employees in the process (Çayak, 2018). *Economic sustainability* incorporates securing stability for a sufficient and consistent economic development, the ability of investment and innovativeness (Čiegis, Ramanauskienė & Martinkus, 2009). On the other hand, *cultural sustainability* aims to preserve cultural heritage and transfer it next generation successfully, and to encourage cultural diversity (Singh & Keitsch, 2016). Finally, *social sustainability* is the ability to create more space for innovation and pursuing equity for present and future generations by focusing on their access to social sources equally (Lago, Aklini Kocak, Crnkovic & Penzenstadler, 2015; Rashidfarokhi, Yrjänä, Wallenius, Toivonen, Ekroos & Viitanen, 2018). Recently, there is a growing interest in literature for sustainable leadership in terms of educational organizations (Ahmed, 2016; Burns, 2016; Cohen, DeFrancia & Martinez, 2016; Çayak, 2018; Hargreaves, 2007; Iliško & Badyanova, 2014; Kantabutra & Saratun, 2013; Lambert, 2012; Yollu, 2017).

It is possible to see the same interest in work effort which is a term commonly associated with performance and motivation (Kuvaas & Dysvik, 2009). Defined as the elevation of intention to behavior (Özdemir, 2013a) and taken seriously in organizational activities, effort is the origin of the term “*work effort*”. Work effort is defined as the volitional behaviors of the employee (Behling & Starke, 1973) and is interchangeably used with active job performance (Tummers & Den Dulk, 2013). It includes all the volitional employee behavior contributing to the organization (Argon & Limon, 2017). McAllister (1995; cited in Tummers & Den Dulk, 2013) found that higher level of work effort meant higher level of performance. For this reason, it is of great importance for organizations (Rapp, 2000). In this sense, it can be said that work effort is a substantial issue in terms of organizational efficiency and productivity and deserves the interest it has attracted recently (Brockner, Grover, Reed & DeWitt, 1992; Bryne, Stoner, Thompson & Hochwarter, 2005; Gardner, Dunham, Cummings & Pierce, 1989; Kuvaas & Dysvik, 2009; Yeo & Neal, 2004). Thanks to its measurable nature, work effort can help to reveal some important outcomes of educational organizations as well (Argon & Limon, 2017; De Cooman, De Gieter, Pepermans, Jegers & Van Acker, 2009; Green, 2004; Rapp, 2000; Yeo & Neal, 2004).

Effectiveness of schools has been of considerable interest amongst researchers and is dealt with from different perspectives (Alanoğlu & Demirtaş, 2016; Ayık & Ada, 2009; Cerit & Yıldırım, 2017; Karabatak, Alanoğlu & Şengür, 2018; Memduhoğlu & Karataş, 2017; Özdemir & Sezgin, 2002; Ramberg, Låftman, Fransson & Modin, 2019; Sivri & Şahin, 2019; Şenel & Buluç, 2016; Turhan, Şener & Gündüzalp, 2017; Uğurlu & Abdurrezzak, 2016; Yıldırım, 2015; Yıldırım & Ada, 2018; Yıldırım, Akan & Yalçın, 2017). The term effectiveness is defined as the extent to which an organization realizes its objectives (Barnard, 1938; cited in Balcı, 2014) and used as “*effective school*” in educational literature (Sivri & Şahin, 2019). Effective school can be defined as the most suitable school environment for students’ cognitive, affective, psychomotor, social and esthetical development (Özdemir, 2013b). When the theoretical background of the term is examined, it is observed that the studies on effective school mostly concentrate on whether the qualities of the schools have a significant effect on student achievement or not (Turhan, Şener & Gündüzalp, 2017). Ron Edmonds (1977; cited in Purkey & Smith, 1983), one of the pioneer researchers of school effectiveness, lists the components of effective schools as (i) *a firm administrative leadership* (ii) *high academic expectations from students* (iii) *a well-arranged atmosphere of learning* (iv) *a focus on fundamental skills* (v) *a frequent monitoring of student development*. Özdemir (2013b) adds that an effective school is a melting pot for students, teachers and environment. Effective schools also predicate the happiness and development of all shareholders on. Other qualities of effective schools are having clear objectives and rich academic programs, principals’ showing instructional leadership, efficient use of school resources, an efficient guiding system. According to Purkey & Smith (1983), when we speak of school effectiveness, management skills, instructional leadership, employee retention and development, participation and support of parents, extended learning environment, publicity of academic achievements are important (Purkey & Smith, 1983). However, in this study, school effectiveness is dealt with in terms of productivity, adaptation and flexibility (Yıldırım & Ada, 2018).

School principals’ sustainable leadership abilities, teachers’ work effort and effectiveness have a substantial effect on educational organizations. Sustainability in leadership mainly aims to create a solid organizational infrastructure for the prospective managers and the system that will transfer this infrastructure from generation to generation. It also brings competitive advantage to the organizations which in turn help develop methods continuously improving organizational performance (McCann & Holt, 2010; Yollu, 2017). On the other hand, the importance of work effort which stands in between somewhere motivation and performance has come forward (De Cooman et al., 2009). School effectiveness, which can be regarded as the initiative of searching for ways of achieving the objectives of the school, improving student achievement and reaching organizational excellence has become a crucial prerequisite for sustaining success of educational organizations (Sivri & Şahin, 2019). However, as far as we could reach in scope of this study, the relationships among these three variables are not dealt with in literature.

Aim of the study

This study aims to determine school principals’ sustainable leadership levels and school effectiveness based on teachers perceptions, self-reported work effort level of teachers and to put forward the relationships among those variables. It also tests the mediator role of teachers’ work effort in the relationship between sustainable leadership and perceived school effectiveness. A mediation model was formed based on the literature (Avery & Bergsteiner, 2011; Lee, 2017; Morris, 2009; Pandey, 2018; Suriyankietkaew & Avery, 2016). The mediation model is illustrated in Figure 1 below.

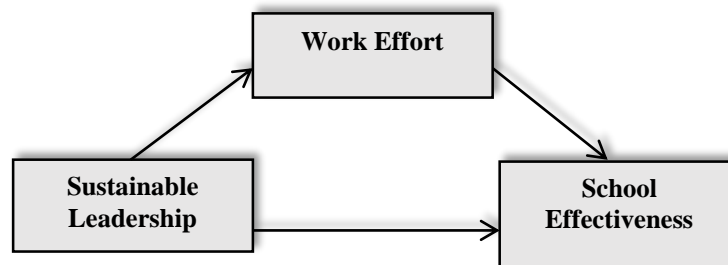


Figure 1. Research model

Method

Research Design

This study employed relational survey method. In relational survey method, the researcher can investigate both correlations among variables and the effect of an independent or more than one independent variable on a dependent or more than one dependent variables (Mertens, 2010). The current study investigated the relationship among three variables (sustainable leadership as independent variable, teacher work effort mediator variable and perceived school effectiveness dependent variable).

Study Group

In this study, the researchers do not aim to generalize the findings to a population, so it was conducted on a study group. Data were collected from 411 teachers working at different grade levels. Of the participants 230 were female (56%) and 181 were male (44%); 69 were primary school teachers (16,8%), 217 were elementary school teachers (52,8%) and remaining 104 were high school teachers (25,3%). Additionally, 309 of the participants (75,2%) had undergraduate degrees and 102 of them (24,8%) had graduate degree. Finally, 68 of the participants (16,5%) had a tenure of 0-5 years; 83 of them (20,2%) had 6-10 years; 97 of them (23,6%) had 11-15 years; 89 of them (21,7%) had 16-20 years and 74 of them (18%) had a tenure of 21 years and above.

Data Collection Tools

Data were collected through three different scales. The data collection tools are introduced below.

Sustainable Leadership Scale

It was developed by Çayak & Çetin (2018) to measure principals' sustainable leadership level. The scale can be used in all grade levels. It is a five-point Likert type scale and does not have a reverse-coded item. The items are responded on a scale ranging from "Strongly disagree (1)" to "Totally agree (5)". The scale has four dimensions. The first one is administrative sustainability (17 items); the second one is economic sustainability (10 items); the third one is cultural sustainability (5 items) and the fourth dimension is social sustainability (4 items). There are totally 36 items in the scale. The scale measures the sustainable leadership level of principals based on the teachers' perceptions. A sample item is from the scale is "My principal informs the teachers about his practices". Maximum score that can be obtained from the scale is 180 and minimum score is 36. Cronbach's Alpha coefficients of the dimensions and scale was found to be respectively ($\alpha=.975$ (Çayak & Çetin, 2018)). The construct validity of the scale was tested through explanatory and confirmatory factor analysis. Fit indices were reported as follows ($\chi^2/df=3,55$; TLI=.91; CFI=.92; RMSEA=.064).

To test the validity of the scale, confirmatory factor analysis (CFA) was conducted in the scope of the current study. The findings showed that fit indices of the scale was very close to the cut off values in the literature ($\chi^2=1492,670$; $df=583$; $\chi^2/df=2,560$; $p=.000$; CFI=.932; GFI=.830; AGFI=.805; NNFI=.927; NFI=.894; IFI=.932; RMR=.042; SRMR=.038; RMSEA=.062). Cronbach's Alpha coefficients of the dimensions and scale was found to be respectively ($\alpha=.968$). Based on these findings, it can be concluded that reliability and validity criteria were satisfied.

Work Effort Scale

It is a scale measuring the employees' work effort level based on self-report and developed by Kuvaas & Dysvik (2009). It is a five-point Likert type scale and does not have a reverse-coded item. The scale is unidimensional and has five items. The items are responded on a scale ranging from "Strongly disagree (1)" to "Strongly agree (5)". Maximum score that can be obtained from the scale is 25 and minimum score is 5. A sample item is "I often expend extra effort in carrying out my job". It was adapted to Turkish culture by Özdemir (2013a) and found to be valid and reliable in Turkish cultural context. The researcher validated the construct of the scale through explanatory factor analysis and it was observed that the explained variance was 74%. On the other hand, Cronbach's Alpha coefficient was found ,870 and factor loading of the items ranged from ,68 to ,82.

In this study the construct validity of the scale was tested through CFA and it showed that fit indices were within the cut off values in the literature ($\chi^2=11,931$; $df=4$; $\chi^2/df=2,983$; $p=.018$; CFI=.989; GFI=.988; AGFI=.956;

NNFI=,972; NFI=,894; IFI=,983; RMR=,009; SRMR=,028; RMSEA=,073). A Cronbach’s Alpha coefficient of the scale was found to be ,831. Based on these findings, it can be concluded that reliability and validity criteria were satisfied.

Perceived School Effectiveness

The scale was originally developed by Mott (1972) and used to measure the organizational effectiveness of the hospitals. Later on, the scale was modified in different studies to be used in educational organizations. The Mott scale was adapted and used in schools first by Miskel, Fevurly & Stewart (1979) and then by Hoy and his colleagues (Hoy & Ferguson, 1985; Hoy, Tarter, & Kottkamp, 1991). It is a six-point Likert type scale and there is no reverse-coded item. The scale is unidimensional and there are 8 items totally. It aims to measure the effectiveness of the schools based on the teachers’ perceptions. The items are responded on a scale ranging from “*Strongly disagree (1)*” to “*Totally agree (6)*”. Maximum score that can be obtained from the scale is 48 and minimum score is 8. A sample item is “*The quality of the products and service provided by this school is high*”. It was adapted to Turkish culture by Yildirim & Ada (2018) and found to be valid and reliable in Turkish cultural context. The researchers reported the test-retest reliability coefficient of the scale as ,84 and Cronbach’s Alpha coefficient as ,86. The construct validity was checked through explanatory and confirmatory factor analysis. CFA was conducted on two different study groups and fit indices were as follows (First study group: $\chi^2/df=3,06$; AGFI=,95; GFI=,97; NFI=,98; CFI=,99; RMR=,045; SRMR=,029; RMSEA=,063; second study group: $\chi^2/df=2,16$; AGFI=,87; GFI=,93; NFI=,96; CFI=,98; RMR=,034; SRMR=,043; RMSEA=,092).

In this study the construct validity of the scale was tested through CFA and it showed that fit indices were within the cut off values in the literature ($\chi^2=52,010$; $df=17$; $\chi^2/df=3,059$; $p=,000$; CFI=,981; GFI=,966; AGFI=,928; NNFI=,970; NFI=,973; IFI=,982; RMR=,037; SRMR=,025; RMSEA=,075). The scale had a Cronbach’s Alpha coefficient of ,916. Based on these findings it can be said that reliability and validity criteria were satisfied.

Data Analysis

Before the analysis of the data, the data set was scanned to determine whether there were missing values or not and no missing values were detected. Univariate normality was checked through skewness and kurtosis values. The values are presented in Table 1 below.

Table 1. Skewness and Kurtosis Statistics

Scale / Dimension	N	Skewness	Std. Error	Kurtosis	Std. Error
Administrative Sustainability	411	-,794		,333	
Economic Sustainability	411	-,939		1,235	
Cultural Sustainability	411	-,858		,649	
Social Sustainability	411	-,186	,120	-,440	,240
Sustainable Leadership	411	-,715		,348	
Perceived School Effectiveness	411	-,920		,611	
Work Effort	411	-,617		,518	

As can be seen in Table 1, skewness and kurtosis values range between -1,96 and +1,96. Based on these findings it can be said that data set satisfied the assumption of univariate normality (Field, 2009).

Secondly, to detect the multivariate outliers Mahalanobis distances were calculated (Çokluk, Şekercioğlu & Büyüköztürk, 2018). In this phase, data of 411 participants were excluded and subsequent analysis were carried out with data of 370 participants. To see whether there was a multicollinearity problem or not between sustainable leadership and teacher work effort as predictive variables, tolerance and VIF values were checked. These values are presented in Table 2 below.

Table 2. Skewness and Kurtosis Statistics

Scale / Dimension	Coefficients			Collinearity Statistics	
	Beta	<i>t</i>	Sig.	Tolerance	VIF
Work Effort	,121	2,482	,014	,711	1,407
Sustainable Leadership	,547	11,256	,000		

Dependent Variable: Perceived School Effectiveness

In Table 2, tolerance and VIF values are presented. The tolerance value is ,711 and VIF is 1.407. These findings and spearman correlation coefficient between these two variables ($r=,538$; $p<,001$) indicate that there is no multicollinearity problem (Field, 2009; Mertler & Vannatta, 2005). Finally, the multivariate normality was examined through scatter plot matrix. It was observed that all the correlations of the variables were in the shape of ellipse in the matrix. Based on this observation, it can be said that the data set satisfied multivariate normality assumption (Çokluk et al. 2018).

While fit indices of the scales were interpreted based on (Browne & Cudek, 1993; Hu & Bentler, 1999; Schermelleh-Engel, Helfried, Moosbrugger & Müller, 2003; Sümer, 2000; Worthington & Whittaker, 2006), Cronbach's Alpha was interpreted based on (Büyüköztürk, 2011; Singh, 2007) relations among variables based on (Russo, 2003).

Findings

Firstly, the correlations among variables and means are presented. The findings are shown in Table 3 below.

Table 3. Means and Correlations Among Variables

Scale / Dimension	\bar{x}	1	2	3	4	5	6	7
1. Administrative Sustainability	3,78	1						
2. Economic Sustainability	4,08	,819**	1					
3. Cultural Sustainability	3,88	,683**	,711**	1				
4. Social Sustainability	3,32	,667**	,555**	,531**	1			
5. Sustainable Leadership	3,83	,966**	,902**	,797**	,745**	1		
6. Perceived School Effectiveness	4,42	,585**	,538**	,499**	,489**	,612**	1	
7. Work Effort	4,27	,515**	,516**	,382**	,414**	,538**	,415**	1

** $p<,001$

As can be seen in Table 3, sustainable leadership level of principals based on teachers' perceptions is "I agree" for administrative, economic, cultural and overall scale ($\bar{x}=3,78$; $\bar{x}=4,08$; $\bar{x}=3,88$ respectively). On the other hand, in social sustainability it is at "Undecided" level ($\bar{x}=3,32$). Based on these findings, except for social sustainability, principals display sustainable leadership behaviors at a satisfactory level. As for perceived school effectiveness, it is at "Partially agree" level ($\bar{x}=4,42$). Lastly, teachers' work effort is at "Strongly agree" level ($\bar{x}=4,27$). On the other hand, there are positive relationships between sustainable leadership and perceived school effectiveness ($r=,612$; $p<,001$); sustainable leadership and teachers' work effort ($r=,538$; $p<,001$) and perceived school effectiveness and teachers' work effort ($r=,415$; $p<,001$). It should also be noted that the relations between the variables are medium and high in strength.

To test the mediator role of teachers' work effort in the relationship between sustainable leadership and perceived school effectiveness, the steps suggested by Baron & Kenny (1986) were followed. First of all, independent variable (sustainable leadership) should have a statistically significant effect on mediator variable (work effort). Secondly, mediator variable should have a statistically significant effect on dependent variable (perceived school effectiveness). Finally, when these two controlled, previously significant effects of independent variable on dependent variable should turn into insignificant (full mediation) or drop (partial mediation). To test the aforementioned assumptions, the mediation test was conducted in four steps.

Step 1

In this step, the effect of independent variable was checked on dependent variable. The structural model is presented in Figure 2 below.

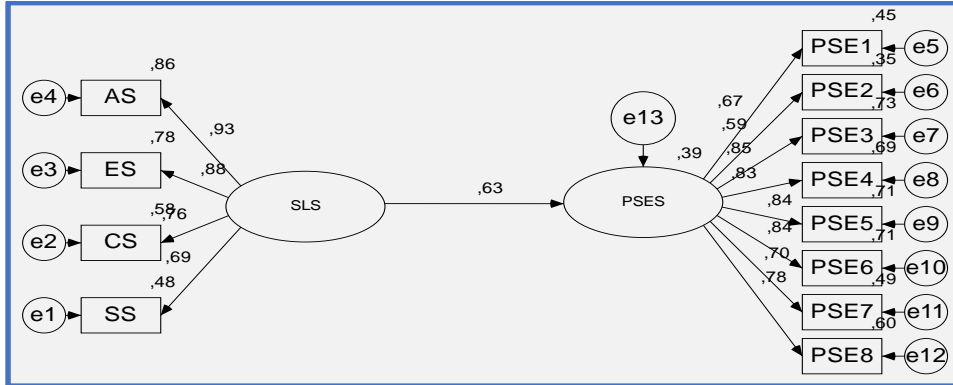


Figure 2. Effect of sustainable leadership on perceived school effectiveness

Table 4. Effect of Sustainable Leadership on Perceived School Effectiveness

Structural Path	β	S. E	C.R	<i>p</i>	Result
PSE<---SL	,626	,095	9,227	,000	Significant

As seen in Table 4, sustainable leadership has a statistically significant effect on perceived school effectiveness ($\beta=.626$; $p<.001$). In other words, sustainable leadership accounts nearly 63% of variance in perceived school effectiveness. This finding indicates that the first assumption of the mediation is satisfied. In the next step, the effect of independent variable on mediator variable was checked.

Step 2

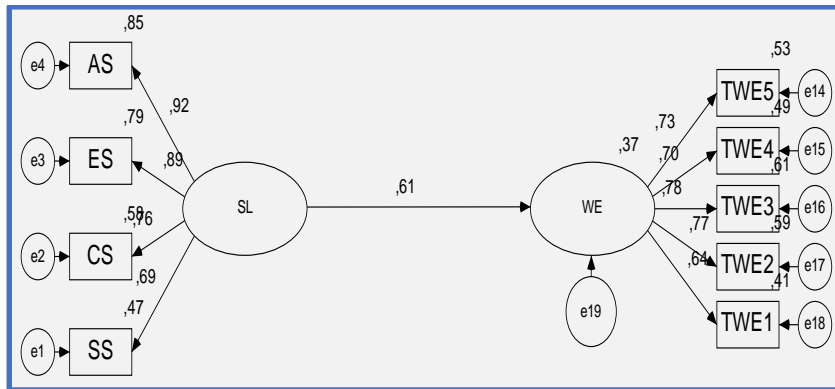


Figure 3. Effect of sustainable leadership on work effort

Table 5. Effect of Sustainable Leadership on Work Effort

Structural Path	β	S. E	C.R	<i>p</i>	Result
WE<---SL	,607	,046	9,010	,000	Significant

As can be seen in Table 5, sustainable leadership has a statistically significant effect on work effort ($\beta=.607$; $p<.001$). In other words, sustainable leadership accounts for nearly 61% of variance in work effort. Based on this

finding, it can be said that the second assumption of the mediation is satisfied. In the last step, all the variables were entered into the model simultaneously and the other assumptions were checked.

Step 3

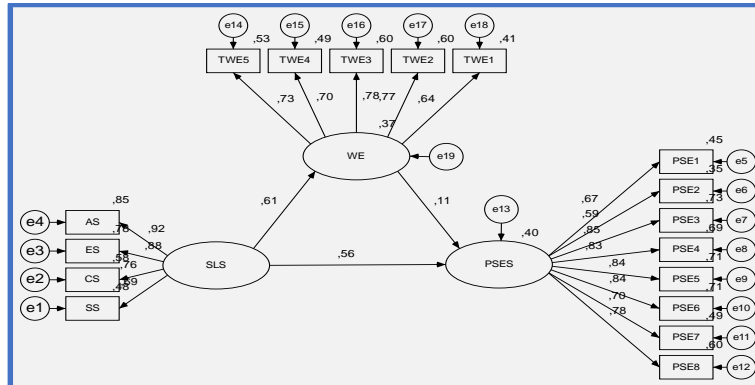


Figure 4. Mediator role of work effort in the relationship between sustainable leadership and perceived school effectiveness

Table 6. Relationship Among Variables

Structural Path	β	S. E	C.R	<i>p</i>	Result
WE<---SL	,607	,045	9,057	,000	Significant
PSE<---WE	,113	,132	1,773	,076	Insignificant
PSE<---SL	,557	,106	7,374	,000	Significant

In the last step, other two assumptions of the mediation analysis were checked. According to this, the mediator variable, work effort, is supposed to have a statistically significant effect on dependent variable, perceived school effectiveness. However, as can be seen in Table 6 the path coefficient between work effort and perceived school effectiveness is not statistically significant ($\beta=.113$; $p>.05$). Based on this finding, the third assumption of mediation is not satisfied which means work effort does not have a mediator role in the relationship between sustainable leadership and perceived school effectiveness.

The finding regarding the mediation was cross checked using Sobel (1982) test. In order to conduct the analysis an online calculator (<http://quantpsy.org/sobel/sobel.htm>) and SPSS was exploited. The result of the Sobel test confirmed our previous finding that work effort does not have a mediator role in the relationship between sustainable leadership and perceived school effectiveness ($z=0.244$; $p>.01$; S.E.=0.401). The findings regarding the test can be seen in Figure 5 below.

Input:	Test statistic:	Std. Error:	<i>p</i> -value:
a 0.442	Sobel test: 0.24444449	0.40141628	0.80688659
b 0.222	Aroian test: 0.19104915	0.51360607	0.84848709
s_a 0.36	Goodman test: 0.40576609	0.24182405	0.68491448
s_b 0.89	Reset all	Calculate	

Figure 5. Findings of sobel test

Discussion, Conclusion and Suggestions

This study aims to reveal the level of principals’ sustainable leadership behavior, perceived school effectiveness and teachers’ work effort based on teachers’ perceptions. It also aims to determine the relationship amongst those variables. Additionally, the study tested the mediator role of teachers’ work effort in the relationship between sustainable leadership and perceived school effectiveness.

The findings showed that principals display sustainable leadership behavior at “*I agree*” level. On the other hand, perceived school effectiveness is at “*Partially agree*” and teachers’ work effort is at “*Strongly agree*” levels. It is observed that the findings regarding the level of variables are consistent with the literature (Cerit & Yıldırım, 2017; Cook, 2014; Çayak, 2018; Lambert, 2012; Memduhoğlu & Karataş, 2017; Neğiş Işık & Gümüş, 2017; Özdemir, 2013a; Şenel & Buluç, 2016; Tatlah & Iqbal, 2012; Turhan, Demirli & Nazik, 2012; Yıldırım, 2015; Yıldırım & Ada, 2018; Yılmaz, 2015; Yollu, 2017). While studies on perceived school effectiveness are prevalent in literature, sustainable leadership and teachers’ work effort need further investigation both nationally and internationally. In this context, it can be said that this study made a substantial contribution to the literature.

Considering the relations among variables, it can be said that there is a medium level positive relationship between work effort and perceived school effectiveness; high level positive relationships between sustainable leadership and perceived school effectiveness and work effort. In other words, it can be said that a higher level of work effort means a higher level of school effectiveness; higher level of sustainable leadership higher level of work effort and school effectiveness and vice versa. On the other hand, the findings are consistent with the literature (Avery & Bergsteiner, 2011; Lee, 2017; Morris, 2009; Pandey, 2018; Suriyankietkaew & Avery, 2016).

Another striking finding of the current study is that sustainable leadership is a statistically significant predictor of perceived school effectiveness. Likewise, it was found in the literature that leadership styles of principals play a crucial role in school effectiveness (Cerit & Yıldırım, 2017; Herrera, 2010; Tatlah & Iqbal, 2012; Zembat, Koçyiğit, Tuğluk & Doğan, 2010). It is possible to mention a similar relationship between sustainable leadership and school effectiveness. There is affluent evidence in the literature sustainable leadership boosts organizational effectiveness (Avery & Bergsteiner, 2011; Lee, 2017; Pandey, 2018; Suriyankietkaew & Avery, 2016).

The study also found that sustainable leadership has a statistically significant effect on teachers’ work effort. Hargreaves & Fink (2006) state that sustainable leadership is an approach that freshens employees’ energy. On the other hand, Šimanskiėnė & Župerkienė (2014) suggested that sustainable leadership has outcomes such as creating a mutual trust, goodwill and cooperation in the organization. It also encourages the employees’ effort based on cooperation. Additionally, sustainable leadership has outcomes such as organizational commitment (Arovic, 2018), motivation (Okechukwu, Chinyere & Ikechukwu, 2015) and satisfaction (Suriyankietkaew & Avery, 2014) in individual level.

In conclusion, this study shows that principals display sustainable leadership behavior at a satisfactory level except for social sustainability. On the other hand, teachers’ work effort is considerably high, and they perceive their schools effective. There are positive relationships amongst the variables high and medium in strength. Considering the casual relationships, sustainable leadership has a statistically significant effect both on perceived school effectiveness and teachers’ work effort. In other words, it can be concluded that the higher level of sustainable leadership means higher levels of teachers’ work effort and school effectiveness. However, it was found that work effort does not play a mediator role in the relationship between sustainable leadership and perceived school effectiveness which means that the effect of sustainable leadership does not occur through teachers’ work effort.

Though it has some considerable implications, we can mention some limitations of the present study. First of all, the data were obtained from a study group which means the findings cannot be generalized to a population. In this sense, further studies can be carried out with appropriate sampling methods to obtain generalizable findings. A second limitation of the present study is that the measurement of the variables is based on the subjective perceptions of the participants which may bring about some respondent bias. Additionally, the structural model tested in the study includes only three variables. Further studies can be carried out with more comprehensive models. This enables researchers to include more organizational behaviors and demographic variables in the model. Lastly, to measure perceived school effectiveness and teachers’ work effort unidimensional scales were used. Similar models can be tested with multidimensional tools.

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