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The Effect of Self-Efficacy Beliefs of School Administrators on Sustainable Leadership Characterictics

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Abstract

In today's world, where material and spiritual resources are consumed much faster, different leadership roles of school administrators come to the fore in the success and effectiveness of schools. One of these leadership roles is sustainable leadership characteristics. In this research, the effect of school administrators' self-efficacy beliefs on sustainable leadership characteristics was examined. 615 school administrators (238, 38.7% principal, 377 61.3% vice principal) and 883 teachers who work in state primary, secondary and high schools in Turkey participated in the research voluntarily. In the research, a self-efficacy scale was applied to school administrators so that it could be possible to determine the self-efficacy beliefs of school administrators. The sustainable leadership characteristics of the school administrators were tried to be determined by asking the teachers working in the same school about the sustainable leadership characteristics of the school administrators. According to the research findings, it was determined that there is a statistically significant relationship between school administrators' self-efficacy beliefs and sustainable leadership characteristics. This significant relationship has led to the conclusion that the self-efficacy belief of school administrators can be considered as a predictive variable (20%) of sustainable leadership characteristics. Suggestions were made to strengthen the sustainable leadership characteristics of school administrators and to work with different variables.

Keywords: School Administrator, Self-Efficacy, Sustainable Leadership, Teacher

1. Introduction

The leadership roles and characteristics of school administrators, who have a key role in schools, have an important place regardless of the circumstances. The efforts of school administrators are effective on issues such as the success of schools, teachers' job satisfaction and motivation, student learning (Uykun, 2021), students' attendance and motivation, and parent satisfaction. Behind the success of school administrators, their self-confidence and belief in what they can do can also be effective. Self-efficacy is an issue that is one of the concepts defining this self-confidence and belief, hand as recently been the subject of many studies in the field of education (Brinkmann et al., 2021; Chang et al., 2022; Choong et al., 2020; Debes, 2021; Greco et al., 2022; Habayib & Cinamon, 2022; Hesbol, 2019; Liu & Hallinger, 2018; Papaioannou, 2022). Self-efficacy of school

administrators is a concept that has an impact on their leadership behaviors (Djourova et al., 2020; Gulmez & Negis Isik, 2020; Hallinger et al., 2018; Schrik & Wasonga, 2019; Skaalvik, 2020).

School administrators' self-efficacy continues to be examined (Goddard et al., 2021; Hamilton, 2020; Vasquez, 2021). Because the nature of the profession is changing and thus the concept of professional competence is changing (Fisher, 2020). School administrators' self-efficacy beliefs can predict teacher efficacy and student success (Goddard et al., 2021). Democratic school principals do not act alone to achieve success in education. They form teams at their school. One of these teams is the teams consisting of teachers. Teachers' motivation, excitement, job satisfaction and wishes are affected by the school principal's leadership behaviors. Shuti (2021), who conducted research at this point, examined the leadership practices of primary school principals in promoting sustainability by motivating teachers. At this point, the concepts of sustainability and leadership become important. Sustainability at the basic level, is about balancing the destructive relationships between human culture and the living world (Hawken, 2007, p. 135). In this context, growing population, increasing urbanization, increasing global economy and increasing use of natural resources have affected the sustainability demand over time (Cohen et al., 2016, p. 231). Sustainability also refers to the moral and spiritual understanding of living within the boundaries of natural systems and our relationships with the world and our relationship with each other (Burns, 2013, p. 166). On the other hand, it can be seen that sustainability, which attracts more and more attention in the literature, can also be defined as organizational approaches that provide a balance between short-term corporate goals and long-term corporate and social responsibility (Pearce et al., 2013, p. 248).

Like all organizations, sustainability is an important concept for schools. Educational institutions are seen as a tool for the sustainability problem of societies due to their role in producing and transmitting information (United Nations, 2012). Sustainability is on the agenda of administrators in schools because it requires school administrators to consider long-term survival. Only leaders and managers with sustainable leadership can effectively manage sustainability. The most effective way to transform an organization or institution into a sustainable one is the leadership ability of the person in charge of the institution (Covey, 1999; Drucker, 1999; Gerard et al., 2017, p. 116; Wong & Avery, 2009, p. 2). Therefore, the importance of sustainable leader and sustainable leadership is increasing day by day (Kalshoven et al., 2011, p. 53). Sustainable leaders are people who inspire actions towards a better world and are forced to make a difference by supporting these inspirations and increasing their awareness of the world around them (Visser & Courtice, 2011, p. 3). Sustainable leadership is a key force that affects change or continuity in the long run and it is the ability to realize that the organization must be intertwined with human values in order to encourage sustainable development and change in a way that meets the working standards of an organization and it is a moral behavior (Bendell et al., 2017, p. 434; Grooms & Reid-Martinez, 2011; Hargreaves & Fink, 2006, p. 2). Countries in many parts of the world have accepted that schools need effective leaders and principals in order to provide the best possible education to their students (Bush, 2008, p. 1). Thus, the leadership practices of school principals become important in ensuring sustainability in school. Singh et al. (2019) stated that organizations' sustainability practices have a moderating role in the relationship between self-efficacy and workplace well-being.

In order to achieve school success, teacher motivation and student learning, the leadership characteristics of school administrators (sustainability leadership characteristics, discussed in this research) and the self-efficacy beliefs that are thought to affect these leadership behaviors are needed. In this research, this need, which is considered important for schools, has been examined.

1.1. Self-efficacy Beliefs of School Administrators

Competence is the readiness of a person in terms of knowledge, skills and abilities to perform a job or the ability to effectively maintain an unscheduled sequence of actions (Ajzen, 2002). While abilities express experiences that can be proven because they come from the past, self-efficacy expresses thoughts, effort and belief about the ability to coordinate and perform actions and behaviors that can help a person improve individual, organizational and social performance (Ajzen, 2002; Judge et al., 2004; Bandura, 1977; Gysbers, 2001; Rich, 2015; Zimmerman, 2000). People with a high perception of self-efficacy are not intimidated by the obstacles or failures

they face and gain their self-confidence more quickly (Pajares & Schunk, 2001; Scott & Davis, 2015). Bandura (1994) evaluated perceived self-efficacy as people's beliefs about their ability to produce.

The self-efficacy belief of school administrators, and in particular school principals, is to be aware of skills such as supporting employees, guiding, and increasing the number and variety of activities in order for the school to show higher performance (Baltaci, 2017; Rich, 2015; Gysbers, 2001). Tschannen-Moran & Gareis (2004) examined school principals' self-efficacy in three dimensions: *managerial*, *instructional*, and *ethical/moral self-efficacy*. *Managerial self-efficacy* is the belief of school principals that they can do the ongoing or routine work of the school. *Instructional self-efficacy* is the belief of school principals that they can do different kinds of jobs and skills such as educational activities within the school, guiding teachers and motivating students. *Ethical/moral self-efficacy* is the belief of school principals that they can bring ethical behaviors such as reducing conflicts within the school, developing positive personality traits in teachers and students, providing a positive school culture and student discipline (Bandura, 1993-2009). Bandura (1994) mentioned that people with a high sense of efficacy see difficult tasks as challenges to be overcome rather than threats to be avoided. When this point of view is considered in terms of school principals, school principals may see the threatening situations they encounter as a challenge they can control.

High self-efficacy beliefs of school administrators and, indeed, school principals are very important for the success of students, teachers and the school (Chacon, 2005; Ghathi & Yaghi, 1997; Henson, 2001). The satisfaction of students and teachers from school also depends on the attitudes and self-efficacy of school principals (Caprara et al., 2006; Caprara & Steca, 2005; Vecchio et al., 2007; Telef & Ergun, 2013). When principals with high self-efficacy make more efforts for the development of their institutions, other employees and students who see this as behavioral and academic success, they will also try to improve the achievements of both the school and themselves (Dembo, 2004; Tschannen-Moran & Gareis, 2004; Tschannen-Moran & Woolfolk-Hoy, 2002).

1.2. Sustainable Leadership of School Administrators

Regardless of the period, sustainable leadership is always the type of leadership sought in educational institutions. Education is a long-term process and its output is obtained in the long term. For this reason, the need for certain types of leadership, especially in educational institutions, is becoming more obvious. Sustainable leadership is seen at the center of the renewal of schools (Ketikidou & Saiti, 2022). Inadequate leadership practices can pose risks for both leaders and followers (Škerlavaj, 2022). 'Providing inclusive and equitable quality education and promoting lifelong learning opportunities for all' are among the 17 goals set by the United Nations in the 2030 Agenda for Sustainable Development (United Nations, 2015). To achieve this goal, schools and school administrators have important roles and duties in sustainable leadership dimensions (administrative, economic, cultural and social). Sustainability leadership roles of school administrators, especially in the social and economic dimension, come to the fore in creating egalitarian educational and lifelong learning opportunities. Hargreaves & Fink (2006) emphasized the principles of sustainable leadership in schools by expressing the principles of inclusiveness (inclusion of everyone in the learning journey), diversity and fairness. While examining the sustainable leadership of school administrators, especially the sustainable leadership roles, behaviors and characteristics of school principals were studied more frequently. In this sense, there are different studies examining this role, behavior and characteristics of educational administrators (Ishak & Hussin, 2022; Jenkins, 2021; Leal Filho et al., 2020; Miller et al., 2019; Yaakob et al., 2020). When the developed measurement tools are evaluated, the dimensions of *ethical-social responsibility, change, innovation-profitability, culture-human resources* (Mirali Yangil & Dil Sahin, 2019) and *strategic distribution, deep learning, environmental-social responsibility* and dimensions such as *development of human resources* (Dagdeviren-Ertas & Ozdemir, 2021) were also encountered in the sustainable leadership dimensions of school principals. In this research, the sustainable leadership characteristics of school administrators in the *administrative, economic, cultural and social* dimensions were examined.

1.3. The Aim of Research

The aim of this research is to determine the effect of school administrators' self-efficacy beliefs on sustainability leadership characteristics. Self-efficacy beliefs of school administrators were examined by their self-evaluation, and sustainability leadership characteristics were examined by teachers' evaluations of school administrators.

2. Research Method

Since the research aims to determine the effect of school administrators' self-efficacy beliefs on sustainability leadership characteristics, the correlational research design conducted with a quantitative approach was preferred. The correlational design examines the degree of correlation between two or more quantitative variables using a correlation coefficient (Fraenkel et al., 2012, p.331). Fraenkel et al., (2012) stated that the main purpose of correlational research is to clarify the understanding of various phenomena by defining the relationships between variables. In this research, first of all, the relationship between self-efficacy belief and sustainable leadership characteristics was defined and it was tried to examine what these two variables mean for each other. Then, the effect of self-efficacy belief on sustainability leadership was examined.

2.1. Universe and Sample

The universe of the research consists of 872 school administrators and 8290 teachers working in public schools in the provinces and districts of Osmaniye, Turkey. The sample of the research was determined in 2 stages. In the first stage, the number of all schools (primary school, secondary school and high school) in Osmaniye province was determined. Each school was accepted as a cluster, and a distribution of participants was created in such a way that sufficient number of participants were taken from each school by cluster sampling method. In the second stage, the sample size of school administrators and teachers from each school was determined by Cochran (1977)'s sample size determination formula (Barlett et al., 2001). According to the table developed by Barlett et al., (2001, p. 48), there is a need for 382 school administrators and about 613-623 teachers with a minimum return rate of .05 margin of error. Based on this information, 615 school administrators and 883 teachers were reached from each school on a voluntary basis. Thus, the research consists of data from 615 school administrators and 883 teachers from 238 schools.

Table 1: Demographic data of school administrators participating in the research

Variables		Province			District			
		Primary school	Secondary school	High school	Primary school	Secondary school	High school	Total
Gender	Female	13	11	20	19	21	23	107
	Male	82	44	71	130	108	73	508
School administrator	Principal	37	24	25	68	51	33	238
	V. Principal	58	31	66	81	78	63	377

It can be determined by examining Table 1 that 107 (17.4%) of the school administrators participating in the research were female and 508 (82.6%) were male, 238 (38.7%) of the school administrators were principals and 377 (61.3%) were vice principals.

Table 2: Demographic data of the teachers participating in the research

Variables		Province			District			
		Primary	Secondary	High	Primary	Secondary	High	Total
Gender	Female	95	61	67	85	58	57	423
	Male	93	79	85	80	69	63	460

| Teacher | Total | 188 | 131 | 152 | 165 | 127 | 120 | 883 |

If Table 2 is examined, it is obvious that 423 (47.9%) of the teachers participating in the research are female, 460 (52.1%) are male, 188 (21.3%) of the teachers work in primary schools in the city center, 131 (14.8%) are in secondary schools in the city center, 152 (17.2%) of them work in high schools in the city center, 165 (18.7%) of the teachers participating in the research work in primary schools in the district center, 127 (14.4%) work in secondary schools in the district center and 120 (13.6%) of them work in high schools in the district center.

2.2. Data Collection Tools

In the research, all previous studies on the sustainable leadership of school administrators were examined, the scales developed on the subject were scanned, and the Sustainable Leadership Scale developed by Cayak & Cetin (2018), which was thought to be developed in accordance with the purpose of the research, was used as the second data collection tool in the research. In addition, in order to determine school administrators' self-efficacy beliefs in the research, Principals' Sense of Efficacy Scale, which was developed by Tschannen-Moran & Gareis (2004) and translated into Turkish by Baltaci, (2020) was used as the first data collection tool in the research since it was thought to be suitable for the purpose of the research. In order for the scales to be used as a data collection tool in the research, the necessary permissions were obtained by e-mail from the researchers who developed the scales.

2.3. Self-Efficacy Beliefs Scale of School Administrators

The Principals' Sense of Efficacy Scale, which was developed by Tschannen-Moran & Gareis (2004) and translated into Turkish by Baltaci, (2020), was used as a data collection tool in the research in order to examine the self-efficacy beliefs of school administrators. In terms of the scale as a whole, Cronbach's Alpha (α) value was determined to be 0.88 and the composite reliability coefficient was determined to be 0.92. The items of the scale, which consists of 18 items, are in the 5-point Likert type as (1) Fairly Insufficient, (2) Insufficient, (3) Normal, (4) Sufficient, and (5) Fairly Sufficient. After the analysis, it was decided that the school administrators' self-efficacy beliefs scale could be used as a valid and reliable scale consisting of 3 factors (managerial, instructional and ethical/moral).

2.4. Sustainable Leadership Scale

The Sustainable Leadership Scale developed by Cayak and Cetin (2018) had 4 sub-dimensions and the sub-dimensions were named (administrative sustainability, economic sustainability, cultural sustainability and social sustainability). As a result, the Sustainable Leadership Scale, consisting of 4 sub-dimensions and 36 items, explaining 66.77% of the total variance was formed. The scale is 5-point Likert type and is graded as (1) Strongly disagree (2) Disagree (3) Undecided (4) Agree (5) Totally agree. A minimum of 36 points and a maximum of 180 points can be obtained from the 36-item scale. The high score of the participant from the scale indicates that the school administrators perceive the sustainable leadership behavior as high.

2.5. Data Analysis

In the analysis of the data, first of all, descriptive analysis of the scale, which is one of the qualitative data analysis types, was made and it was evaluated whether the sub-dimensions of Local Sustainability, Economic Sustainability, Cultural Sustainability and Social Sustainability were suitable for comparison. Then, the sustainable leadership levels of school administrators related to each dimension were evaluated. Finally, the general sustainable leadership status of school administrators was evaluated.

By entering the data into the SPSS 20 analysis program, it was determined that the data were continuous and showed a normal distribution by evaluating the distribution of the variables for analysis. Then, before calculating

the correlation coefficient, it was determined that the relations between the sub-dimensions of the scales were linear by looking at the scatter plots, and it was decided to make the relations between the sub-dimensions of the scales using Pearson Correlation analysis. In the research, the relationships between school administrators' self-efficacy beliefs and sustainable leadership characteristics were examined by correlation analysis in order to determine the relationship, if any, between the overall scales and its sub-dimensions, and the direction and degree of the relationship. Scales' validity and reliability analyzes were made and stated in the relevant section (data collection tools).

3. Results

The results of the research were determined for the purpose of the research. First of all, school administrators' self-efficacy beliefs were tried to be determined in terms of managerial, instructional and ethical/moral sub-dimensions of the scale. For this, the scores given to the school administrators' self-efficacy perception scale were analyzed. Secondly, in order to determine the opinions of teachers about their own school administrators, the sustainable leadership scale was analyzed and finally the scores given to the two scales were compared. It was determined that the data were continuous and showed a normal distribution.

3.1. Sustainable Leadership Characteristics of School Administrators (Correlation Between Sub-Dimensions)

The relationships between the sustainable leadership sub-dimensions of school administrators are given in Table 3.

Table 3: Correlation between the sub-dimensions of school administrators' sustainable leadership characteristics

	Economic		Cultural		Social		Total Sustainability	
	r	p	r	p	r	p	r	p
Administrative	0.08	0.01*	0.07	0.00*	0.23	0.00*	-0.14	0.67
Economic	-	-	0.10	0.00*	0.18	0.00*	0.00	0.82
Cultural	-	-	-	-	-0.10	0.00*	0.00	0.83
Social	-	-	-	-	-	-	0.04	0.16

*p<0.05

According to Table 3, positive and low level of correlations were found between administrative and economic (r=0.08, p=0.01), between administrative and cultural (r=0.07, p=0.00), between administrative and social (r=0.23, p=0.00).

3.2. Self-efficacy Beliefs of School Administrators (Correlation Between Sub-Dimensions)

Pearson Correlation Coefficient values were calculated to determine whether there is a relationship between the total score of self-efficacy belief and its sub-dimensions.

Table 4: Correlation between the total score and sub-dimensions of self-efficacy belief

	Instructional		Ethics - Moral		Total Self-efficacy	
	r	p	r	p	r	p
Managerial	0.06	0.10	0.00	0.91	0.09	0.01*
Instructional	-	-	0.29	0.00*	0.05	0.20
Ethics – Moral	-	-	-	-	0.10	0.00*

*p<0.05

According to table 4, there are positive and low correlations between managerial self-efficacy and total self-efficacy (r=0.23, p=0.00), instructional and ethical-moral, ethical-moral and total self-efficacy.

3.3. Correlation Between School Administrators' Self-Efficacy Beliefs And Sustainable Leadership Characteristics

The Pearson Correlation Coefficient between both variables was calculated to determine whether there was a significant relationship between the participants' total self-efficacy scores and their total sustainability levels. Table 5 shows this relationship.

Table 5: Correlation between total self-efficacy scores and self-efficacy sub-dimensions and total sustainability levels and sub-dimensions

	Managerial		Instructional		Ethics-Moral		Total Self-efficacy	
	r	p	r	p	r	p	r	p
Administrative	-0.04	0.91	0.38	0.00*	0.54	0.00*	0.07	0.06
Economic	0.01	0.73	0.10	0.01*	0.05	0.14	-0.04	0.25
Cultural	0.01	0.63	0.55	0.00*	0.18	0.00*	0.09	0.01*
Social	0.05	0.21	-0.05	0.14	-0.03	0.34	-0.01	0.74
Total Sustainability	0.45	0.00*	-0.00	0.97	-0.01	0.68	0.13	0.00*

*$p<0.05$

According to the analysis results in Table 5, there are significant positive correlations between the administrative, economic and cultural sub-dimensions of sustainable leadership and the instructional sub-dimension of self-efficacy belief.

Table 6: Correlation between school administrators' self-efficacy beliefs and sustainable leadership characteristics

	Sustainable Leadership	
	r	*p*
Self-Efficacy	0.13	0.00*

*$p<0.05$

According to the result of the correlation analysis shown in Table 6, a low and positive relationship was found between total self-efficacy and total sustainable leadership.

3.4. The Effect of School Administrators' Self-Efficacy Beliefs on Sustainable Leadership Characteristics

According to the results of the correlation analysis, it was thought that self-efficacy was effective in sustainable leadership and that self-efficacy could be a predictor variable in terms of sustainable leadership. Therefore, multiple linear regression analysis was performed between these variables, with the total score of sustainable leadership and its sub-dimensions as dependent variables, and self-efficacy and sub-dimensions as independent variables.

Table 7: Multiple regression analysis showing the effect of total self-efficacy and its sub-dimensions on total sustainability

Variable	B	Standard Error	*β*	t	p
Constant	86.53	7.89	-	10.96	0.00*
Managerial	1.78	0.14	0.44	12.28	0.00*
Instructional	0.15	0.17	0.03	0.91	0.36
Ethics - Moral	-0.17	0.17	-0.03	-1.02	0.30

Total Self-efficacy	0.18	0.07	0.09	2.59	0.01*
Total Sustainable leadership	0.21	0.06	0.17	3.42	0.00*

R=0.46, R^2 (Adj.)= 0.20
F= 41.46, p=0.00*

*p<0.05

From the analysis results in Table 7, when the total self-efficacy and sub-dimensions are considered as a whole, it is understood that the model is significant (p<0.05). In addition, it was understood that total self-efficacy and managerial sub-dimension were significantly predictive variables of total sustainable leadership. Accordingly, it can be said that 20% of the change in total sustainable leadership is due to self-efficacy. This finding shows that school administrators' self-efficacy beliefs have a predictive effect on sustainable leadership characteristics.

Table 8: Multiple regression analysis showing the effects of total self-efficacy and its sub-dimensions on the Administrative sub-dimension of sustainability

Variable	B	Standard Error	β	t	p
Constant	18.15	4.40	-	4.12	0.00*
Managerial	0.02	0.08	0.00	0.25	0.79
Instructional	0.67	0.09	0.24	7.11	0.00*
Ethics-Moral	1.31	0.09	0.46	13.60	0.00*
Total Self-efficacy	0.01	0.03	0.01	0.35	0.72
Administrative					

R= 0.59, R^2 (Adj.)= 0.34
F= 81.63, p=0.00*

*p<0.05

From the analysis results in Table 8, one can understand that self-efficacy and its sub-dimensions were effective in the Administrative sub-dimension of sustainable leadership and the model was significant (p<0.05). Instructional and Ethics-Moral sub-dimensions of Self-Efficacy are the predictive variables for the Administrative leadership sub-dimension. It can be said that 34% of the change in the administrative leadership sub-dimension stems from the Instructional and Ethics/Moral leadership sub-dimensions.

Table 9: Multiple regression analysis showing the effects of total self-efficacy and its sub-dimensions on the Economic sub-dimension of sustainable leadership

Variable	B	Standard Error	β	t	p
Constant	37.49	3.48	-	10.77	0.00*
Managerial	0.04	0.06	0.02	0.63	0.52
Instructional	0.16	0.07	0.09	2.24	0.02*
Ethics - Moral	0.06	0.07	0.03	0.86	0.38
Total Self-efficacy	-0.04	0.03	-0.05	-1.41	0.15
Economic					

R= 0.12, R^2 (Adj.)= 0.00
F= 2.28, p=0.05

*p<0.05

From the analysis results in Table 9, it is possible to understand that self-efficacy and its sub-dimensions did not have a significant effect on the Economic sub-dimension of sustainable leadership (R_2 (Adj.)= 0.00, p=0.05).

Although the Instructional sub-dimension of self-efficacy is the predictor variable for the economic leadership sub-dimension, the model is not significant when considered as a whole.

Table 10: Multiple regression analysis showing the effects of total self-efficacy and its sub-dimensions on the Cultural sub-dimension of sustainable leadership

Variable	B	Standard Error	β	t	p
Constant	-4.80	2.33	-	-2.05	0.04*
Managerial	0.06	0.04	0.04	1.44	0.14
Instructional	0.78	0.05	0.55	15.62	0.00*
Ethics - Moral	0.02	0.05	0.01	0.47	0.63
Total Self-efficacy	0.03	0.02	0.06	1.78	0.07
Cultural					
R= 0.56, R^2 (Adj.)= 0.31 F= 70.17, p= 0.00*					
*p<0.05					

From the analysis results in Table 10, one can see that self-efficacy and its sub-dimensions were effective in the Cultural sub-dimension of sustainable leadership and the model was significant (p<0.05). It can be said that the instructional belief sub-dimension of self-efficacy is a predictive variable for the cultural leadership sub-dimension. According to the model, it can be said that 31% of the change in the cultural leadership sub-dimension is due to the Instructional belief sub-dimension.

Table 11: Multiple regression analysis showing the effects of total self-efficacy and its sub-dimensions on the Social sub-dimension of sustainable leadership

Variable	B	Standard Error	β	t	p
Constant	17.6	2.22	-	7.96	0.00*
Managerial	0.04	0.04	0.04	1.18	0.23
Instructional	-0.05	0.04	-0.04	-1.13	0.25
Ethics - Moral	-0.02	0.04	-0.02	-0.52	0.59
Total Self-efficacy	-0.00	0.02	-0.01	-0.32	0.74
Social					
R= 0.07, R^2 (Adj.)= 0.00 F= 0.96, p=0.42					
*p<0.05					

From the analysis results in Table 11, it can be figured out that self-efficacy and its sub-dimensions did not have a significant effect on the Social sub-dimension of sustainable leadership (R_2 (Adj.)= 0.00, p=0.42).

4. Discussion, Conclusion and Recommendations

In this research, the effect of school administrators' self-efficacy beliefs about their profession on sustainable leadership characteristics was examined. In accordance with this purpose, two main results emerged. First, *a statistically significant relationship was found between school administrators' self-efficacy beliefs and sustainable leadership characteristics.* Second, *school administrators' self-efficacy beliefs have a predictive feature on sustainable leadership characteristics. This predictiveness stems from the instructional and ethical/moral beliefs of school administrators.* The specific result of the research is that *the instructional and ethical/moral beliefs of school administrators emerge as predictive variables on administrative leadership characteristics, and instructional beliefs alone on cultural leadership characteristics.* When the relationships

between the sub-dimensions of the scales were examined, no significant relationship emerged between some dimensions (such as managerial belief-economic, cultural and social leadership).

When the relationships were evaluated in terms of the sub-dimensions of the scales, a positive, moderate and significant relationship was found between the instructional self-efficacy beliefs of school administrators and their cultural leadership characteristics. Many studies reveal that people's self-efficacy beliefs affect their professional performance in terms of their knowledge, skills, attitudes and value judgments while performing their profession (Kotil, 2010). School administrators, who have responsibilities such as achieving the pre-planned instructional goals, supervising the instructional activities of teachers, guiding and directing the employees in the education process, should also have leadership characteristics. Instructional self-efficacy of school administrators can affect their performance and effort in school. In some studies, it has been determined that school principals with strong self-efficacy beliefs feel more confident in planning the teaching process, providing in-school instructional organization, maximizing the benefit of instructional activities, and creating sustainable learning environments for students and teachers, especially lifelong learning (Milner & Woolfolk Hoy, 2002). It has been determined that principals with a high sense of self-efficacy create a more instructional, encouraging and fairer environment in their schools (Allinder, 1995). In some studies, it has been concluded that there are mostly significant relationships between the instructional self-efficacy behaviors of school principals and the learning outcomes at school (Artino, 2012, p. 9; Holzberger, Philipp & Kunter, 2013; Tschannen-Moran & McMaster, 2009). In addition, it has been determined that students' academic success is higher in schools where principals are perceived as strong instructional leaders (Polat, 1997).

In the research, it has been determined that *there is a low, positive and statistically significant relationship between the ethics/moral beliefs of school administrators and their general self-efficacy beliefs.* Educational institutions undertake the most important responsibility in terms of the development of moral values and shaping the society according to ethical principles (Minaz, 2018). The moral values of school principals, whose main purpose is to positively affect the educational activities of the employees, make it easier for the school to reach its moral goals by reflecting it on the behavior of all employees and students (Helvaci, 2010). The ethical and moral attitudes of school principals will determine the boundaries of the concepts of justice and equality in various decisions and practices at school (Msila, 2012). Because the ethical behaviors of school principals affect the employees' sense of justice, sense of belonging, performance and their contribution to the realization of the school's goals (Akatay et al., 2016). School principals who have high ethical self-efficacy beliefs encourage each employee to develop themselves without discrimination in order to create equal conditions for employees and to achieve a certain level of success at school (Chears-Young, 2014). On the other hand, school principals who exhibit high ethical behaviors in addition to institutional impact and efficiency also improve and change the social image of the school (Kim & Kim, 2013). In a study by McCann and Sweet (2014) with principals, it was determined that principals with high moral personality acted according to universal ethical principles and their self-efficacy beliefs were also quite high.

In the research, it has been determined that *there is a positive, moderate and significant relationship between the managerial beliefs of school principals and their total sustainable leadership characteristics.* A sustainable leader is a person who interacts effectively with the employees who influence her/him and contributes to the mutual enrichment of effective ideas and successful practices for better quality education and sustainable improvement (Hargreaves & Fink, 2004). Jim Collins (2001) who is an influential writer on leadership states in his book Good to Great, based on his research on leadership, that managerial leadership capacities of principals develop in five sub-dimensions. These include senior managerial knowledge, a guiding team member, a competent principal, and an effective executive and manager (Collins, 2001; Davies, 2007). It is necessary for school principals to have these five sub-dimensions in order to perform well in management and to contribute to the achievement of the school's goals. In fact, the sustainable leadership strategy is administratively largely based on the school's ability to become a better, faster, more flexible and more adaptable organization (Dervitsiotis, 2005). As a result, school principals accept creating cooperation, influencing employees, achieving results, predicting and evaluating long-term educational processes as the basis of a sustainable leadership transformation (Tideman, Arts & Zandee, 2013).

In the research, it has been determined that *there is a low, positive and significant relationship between the instructional beliefs of school administrators and their economic leadership characteristics. However, it has also been found that school administrators' self-efficacy beliefs do not have a significant effect on their economic and social leadership characteristics.* It is obvious that the quality of education has an impact on the quality of societies' political, economic, social, and cultural development (Cakmak, 2008). The modern economic climate, increasing global integration, requires an interconnected, complex, holistic and organic leadership strategy (Crews, 2010). In the new world order, where the business world, economy, education, environment and society are integrated and interconnected, school principals should harmonize the management of education processes with economic expectations by joining up the dots (Kantabutra & Avery, 2011; Tideman et al., 2013). It is recommended by experts that school principals adopt a range of management skills to achieve an appropriate balance between educational, social, economic and environmental phenomena (Avery & Bergsteiner, 2010). In this respect, it is expected from school principals to have knowledge about sustainable leadership and management practices in order to ensure institutional sustainability in economic terms. In this regard, thanks to the principals, the educational efficiency and performance of the school will increase and the guidance methods that can lead to higher and long-term social and economic advantages can be applied in the school.

Principals of schools should have a style of how their subordinates perceive them, affect their subordinates' behaviors and attitudes towards the school, and also what kind of leadership style they adopt in their social relations (Canbolat, 2016). Individuals' social perceptions and socialization levels increase with participation in activities in social life, and many individuals can be involved in social life at the rate of their social perception level (Atalay et al., 2013). Leadership is traditionally seen as an openly interpersonal phenomenon demonstrated in the interaction between leaders and subordinates, and effective leadership behavior depends on the leader's ability to solve complex social problems that arise in organizations (Mumford et al., 2000). Hence, in addition to managing their own behaviors in terms of social relations, the school administrator should also direct the behaviors and social skills of other employees in the school in a positive way in terms of increasing institutional productivity.

According to today's education mentality, school administrators and especially school principals should be open to change and have many traits such as being creative, inspiring, investigative, guiding, tolerant, motivating and directing (Gul & Sahin, 2011). School administrators with strong self-efficacy beliefs will contribute to creating strong schools with their sustainability leadership skills. Finding a statistically significant relationship between school administrators' self-efficacy beliefs and sustainable leadership characteristics in our research may create a route for researchers who want to study on this subject to conduct a structural modeling research. By examining other variables (mediator variables) that may affect school administrators' self-efficacy beliefs, researchers can offer a perspective on strengthening their sustainable leadership characteristics.

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