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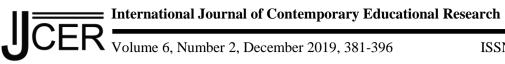
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The Relationship between Teacher Perceptions of Distributed Leadership and Schools as Learning Organizations

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Abstract

This study aimed to identify the relationship between teachers' distributed leadership and perceptions of schools as learning organizations. This study used correlational survey model and made use of correlations to determine the relationship between the two variables. Study population consisted of 600 teachers employed at secondary schools in the central district of Bolu in 2018-2019 academic year. The study was carried out on the population and therefore no sampling was required. Of the 600 scales distributed, 268 were returned and evaluated. The measurement tool used in the research consists of three parts. First part of the scale included demographic characteristics of teachers. The second part included the Distributed Leadership Scale and the third part consisted of the Learning School Scale. Some of the results of the research are as follows: Teachers have high perceptions of learning school and sub-dimensions such as team learning, mental models, shared vision, personal domination and shared leadership. Male and female teachers are similar in learning schools and subdimensions of learning in teams, mental models, shared vision and shared leadership perceptions. According to the results of the research, female teachers 'perceptions of personal dominance dimension are higher than male teachers' perceptions. Teachers with different types of in-service participation and project numbers have similar characteristics to the learning school, learning as a team, mental models, shared vision and personal dominance sub-dimensions and shared leadership perceptions. The teachers' perceptions of teachers in schools whose schools have different number of teachers show different characteristics in other dimensions and shared leadership perceptions except for personal dominance dimension.

Key words: Teacher, Leader, Shared leadership, Learning school

Introduction

Education has an important role in the progress and development of countries and in shaping their future. Countries need to improve their education systems and schools, one of the most significant elements of the system of education continually in order to keep up with the changes of the 21st century where constant transformations take place. Development of schools depends on state policies as well as schools' self-improvement and effectiveness. Learning organizations are the organizations that create new knowledge, share this knowledge within the organization and benefit from this knowledge in the solution of problems by ensuring that the whole organization learns new information and that this information becomes organizational information (Senge, 1990). Schools need to be learning organizations in order to be effective. In addition, schools as learning organizations are needed since each student has different learning styles (Middlewood, Parker & Beere, 2005).

Organizations based on problem-solving in essence differ from traditional organizations (Akhtar & Khan, 2011). Learning organizations approach learning primarily as a process and ensure that learning takes place due to individuals' interaction without relying on a certain period for learning to occur (Braham, 1998). In learning organizations, the leader empowers the staff and ensures active participation by creating a shared vision (Efil, 1999). Learning organizations are structures with high expectations, they are forward-thinking, proactive, strategic in decision-making and flexible in adapting to changes and they encourage experiences and support learning and development (Akhtar & Khan, 2011). Only through healthy structuring efforts that leaders of organizations can ensure that their organizations are learning organizations (Şimşek & Kıngır, 2006). The

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fundamental element in this structuring is the workforce, i.e., human resources, in the organization. Organizations' human resources are usually drawn to administrators and leaders in the organization and influenced largely by them. The communication and interaction of leaders with their staff differ based on their personal characteristics and the common goals that bring them together. In organizations where staff comes together around common goals, distributed leadership practices may ensure that the members of the organization are empowered and there is synergy in addition to revealing the learning abilities of the staff via some behavioral models. The model behaviors that the leaders display help create an organizational climate pertinent to lifelong learning and contribute to the creation, dissemination, and development of effective ideas. Yazıcı (2001) reports that leaders in learning organization should have the following roles:

- Leaders should demonstrate that they are open to learning and development and make efforts in this direction. As a natural outcome of this, they can have successful interactions with staff and guide their attitudes and behaviors.
- Providing opportunities for learning and development by supporting the staff.
- Establishing systems that enable staff to continue learning in their daily work and disseminating the importance of learning to the whole organization.

School administrators who are the dynamic pillars of the schools as learning organizations have important roles and responsibilities. However, in order to fulfill these duties, school administrators should be able to move away from their traditional administration roles, have modern leadership skills and transform their schools into organizations that generate, transfer and utilize knowledge. Only in this way, schools will be transformed into learning organizations and effective schools. It is very difficult for school administrators to achieve all these by themselves. Senge (2002) states that success in this regard cannot be ensured with the traditional administration approach, that the learning organizations can only be guided with a new leadership approach instead and that a leader in learning organizations is a teacher, designer and administrator rolled into one. In this context, it is very important for school administrators to have distributed leadership skills via transferring or sharing authority and duties. Gronn (2000) explained that the concept of distributed leadership is the outcome of interactions among members of the organization rather than the influence of a sole person in the organization. The leader encourages employees in the whole organization to participate effectively in the decision-making process through sharing and empowerment (Efil, 1999). Transfer of authority is an important way to increase the efficiency of organizations. As a result of the transfer of authority, the organization breaks away from the centralist structure, rapid decision-making mechanisms develop and the dynamism of the organization increases. With the transfer of authority, interest in new concepts and techniques grows (Bursalioğlu, 2002). Hence, cooperation increases in organizations. Teachers who are given authority and responsibility may be more willing to learn. In this sense, the fact that the school administrators engage in distributed leadership practices is deemed significant because school staff feels they are important and their motivation increases. On the other hand, Ağıroğlu-Bakır (2013) defined distributed leadership as a type of leadership based on utilizing shared competences to achieve the goals of the school as a result of cooperation and interaction of all school stakeholders.

In the 21st century, school administrators are expected to develop and transform their schools with collaborative and shared behaviors (Özer & Bevcioğlu, 2010). Distributed leadership arises from the interaction between the leader and members. Distributed leadership, which creates solidarity in staff actions, determines the direction of leadership practices by attaching importance to relationships with their staff (Spillane, 2005). Through effectively distributed leadership behaviors of school administrators and by adapting to changes in educational organizations where change is compulsory, it is possible to create innovative and effective learning schools (Elmore, 2000). Following distributed leadership practices is rather crucial to keep up with the changes and developments in education and to implement these in the school to reach the standards required in the 21st century. Staff may be more willing to learn new things and attach more importance to their professional development at schools where distributed leadership is practiced, thus enabling their schools to become learning organizations. The fact that the school principal is a leader who follows the principles of distributed leadership can generate positive perceptions in teachers. Proponents of this idea claim that shared leadership is required since educational institutions are too complex to be managed with only one individual. Responsibility for managing various complex tasks in organizations is distributed among a myriad of individuals with different roles (Göksoy, 2005). As a matter of fact, these positive perceptions will be reflected in the success of learning schools. In this respect, this study aimed to identify the relationship between teachers' perceptions of school administrators' distributed leadership behaviors and their perceptions of schools as learning organizations. This study is deemed important since it will not only guide school principals in this respect but it will also contribute to the literature. When the studies carried out in Turkey shared leadership behaviors and means of work psychological safety perception in the relationship between turnover intention variable relationship (Yener,

2014), shared leadership, the relationship between family involvement and commitment to the school (Erol, 2016), psychological and shared leadership perceptions of teachers in schools capital (Sarbay, 2019), distribution of leadership scale adaptation (Sahin, Uğur, Dinçel, Balıkçı & Karadağ, 2014), the levels of primary school administrators to show shared leadership behaviors (Korkmaz, 2010), the levels of primary school administrators to show distributive leadership behaviors (Korkmaz & Gündüz, 2010), development of the shared leadership scale (Özer & Beycioğlu, 2013). outside of Turkey in adapting to comprehensive school reform school collaborative leadership perspective (Camburnu, Rowan & Taylor, 2003), the relationship between collaborative leadership and school success (Harris, 2004), views about sharing leadership with (Bolden, Petrov & Gosling, 2009) distribution leadership (Spillane, Diamond, Sherer & Coldren, 2005). It also increases the importance of shared leadership and study have not been seen in a study that examined the relationship between school learning is analyzed studies conducted in Turkey and abroad. The study set out to determine the relationship between teachers' perceptions of school administrators' distributed leadership behaviors and their perceptions on schools as learning organizations and to identify whether these perceptions differ according to the following demographic characteristics: gender, seniority, level of education, participation in in-service training events, number of projects implemented in the school, number of teachers in the school and habit of reading daily newspapers. In line with this general aim, answers to the following questions will be sought in the study:

1. What are the perceptions of secondary schools teachers in the central district of Bolu Province in regards to distributed leadership and schools as learning organizations?

2. Do secondary schools teachers' perceptions in regards to distributed leadership and schools as learning organizations significantly differ in terms of gender, seniority, level of education, participation in inservice training events, number of projects implemented in the school, number of teachers in the school and habit of reading daily newspapers?

3. Is there a significant relationship between teachers' perceptions in regards to distributed leadership and schools as learning organizations?

Method

Research Model

Correlational survey model, which aims to determine the presence and degree of change between two or more variables, was used in this study. In correlational survey models, the variables to be correlated are collected separately and represented by using symbols to enable a relational analysis. Correlational survey model, can be implemented by using correlations or comparisons. This study made use of correlations to determine the relationship between two variables. In this type of correlational survey model, a relationship is said to exist between two variables when the value of one variable changes along with the value of the other variable (Karasar, 2005).

Research Ethics

Prior to the application of the scales used in the study, the ethics review of the study was conducted in the Ethics Committee of the Bolu Izzet Baysal University, and the official approval was obtained from the Bolu Governorship through the Bolu National Education Directorate along with the positive ethical report. The scales were used with permission.

Participants

The population of the study consisted of 600 teachers employed at secondary schools in the central district of Bolu in the 2018-2019 academic year. The study was carried out on the population and therefore no sampling was required. Of the 600 scales distributed, 268 were returned and evaluated.

Based on the analysis of participant teachers and the participating schools located in Bolu central province, it was noteworthy that some teachers (n = 60) were found to remark about the absence of project implementation in their schools. Another noteworthy finding was related to the high number of teachers who did not read daily newspapers (n = 90). Of the participants, 172 (64.2%) were female and 96 (35.8%) were male. When teachers' participation in in-service training was examined in terms of number of times of participation, it was found that 35 teachers (13.1%) attended 1-3 in-service training events, 96 teachers (35.8%) attended 4-7 in-service training events, 67 teachers (25%) attended 8-10 in-service training events and 86 teachers (26.1%) attended 11 or more in-service training events.

While 60 teachers (22.3%) stated that they did not have projects in their schools, 122 teachers (45.5%) reported that they had 1-3 projects and 86 teachers (32.1%) stated that they had 4 or more projects implemented in their schools. In terms of number of teachers employed at schools, 31 teachers (11.6%) reported the number of teachers in their schools to be 1-15, 101 teachers (37.7%) reported the number of teachers in their schools to be 16-30, 54 teachers (20.1%) reported the number of teachers in their schools to be 31-45, 62 teachers (23%, 1) reported the number as 46-60 and 20 (7.5\%) teachers stated that there were 61 or more teachers in their schools. While the number of teachers who read daily newspapers was 178 (66.4\%), the number of teachers who did not read daily newspapers was 90 (33.6\%).

Instruments

The instrument included three parts. The first section consisted of seven questions about the demographic characteristics of teachers such as gender, seniority, education level, number of in-service training attendance, daily newspaper reading habits and variables such as the number of projects at school and the number of teachers in the school. The second part included the Distributed Leadership Scale while and the third part consisted of the Learning School Scale.

Distributed Leadership Scale

The scale with 10 items and a single dimension was developed by Özer and Beycioğlu (2013). The five-point Likert scale was graded as follows: never (1), rarely (2), sometimes (3), mostly/frequently (4) and always (5). While 10 points are the lowest score that can be obtained from the scale and it indicates the low level of perception towards the concept of distributed leadership, 50 points are the highest score that can be obtained from the scale and it indicates that distributed leadership perceptions are high. The reliability of the scale was calculated as .92 by Özer and Beycioğlu (2013) in the framework of reliability analysis of the original scale. The Cronbach Alpha reliability value was found to be .89 in the context of this study which shows the scale to be reliable.

Learning School Scale

The 5-point Likert scale which was developed by Uğurlu, Doğan and Yiğit (2014) consisted of 20 items and 4 sub-dimensions: Team Learning, Mental Models, Shared Vision, and Personal Mastery. The scale is scored by using the criteria of completely agree (5), agree (4), undecided (3), disagree (2) and completely disagree (1) and evaluated according to following criteria: Very Low (1.00-1.80); Low (1.81-2.60); Moderate (2.61-3.40) High (3.41-4.20) and Very High (4.21-5.00). As a result of the Cronbach Alpha reliability analysis conducted by Uğurlu, Doğan, and Yiğit (2014), Cronbach Alpha reliability value for team learning dimension was calculated as .89, mental models .89, shared vision .84, and personal mastery as .69. Cronbach Alpha reliability value for the whole scale was found to be .92. Based on the Cronbach Alpha reliability analysis carried out in this study, the reliability values were calculated to be .90 for team learning .88 for mental models .85 for the shared vision and .77 for personal mastery. The Cronbach Alpha value was found to be .93 for the whole scale. Based on these results, it can be argued that the scale is reliable.

Data Analysis

Before data analysis, the Kolmogorov-Smirnov test was used to determine whether the distribution of variables was normal and it was identified that the data did not display a normal distribution. Means were analyzed to identify teachers' perceptions in regards to learning schools, its subscales, and distributed leadership. Mann-Whitney U test was performed to determine the relationships between teacher perceptions on learning schools and distributed leadership according to gender and habit of reading the daily newspapers. Kruskal-Wallis-H test was performed to identify the analyzed relationship based on the following variables: number of in-service training events that the participants attended, number of projects implemented at the school and the number of teachers at the school. Spearman's rho correlation analysis was conducted in order to determine the relationship between teacher perceptions of learning schools and distributed leadership (Karasar, 2005).

Findings

Based on analysis results, this section presents teachers' perceptions on learning schools, its subdimensions and distributed leadership, displays the relationships between the perceptions of learning school along with its sub dimensions and distributed leadership and demonstrates whether these perceptions differ according to gender, number of in-service training attended by participating teachers, number of projects implemented at the school, number of teachers at the school and habit of reading daily newspapers by using relevant tables. Table 1 presents teachers' perceptions of learning school and distributed leadership.

Table 1. Teache	ers' Perceptions of Learnin	g Schools and Distri	buted Leadership	
Scale	Ν	$\overline{\mathbf{X}}$	Sd	
Team Learning	268	4.07	0.64	
Mental Models	268	3.90	0.76	
Shared Vision	268	3.97	0.67	
Personal Mastery	268	4.18	0.63	
Learning school	268	4.04	0.57	
Distributed leadership	268	4.26	0.62	

According to Table 1, assessment of arithmetic means and standard deviations in combination demonstrates that teacher perceptions were homogeneous on learning schools, its sub-dimensions, and distributed leadership

It was observed that teachers had highly favorable perceptions of learning schools ($\overline{X} = 4.04$). When teacher perceptions on the dimensions of learning schools were examined, it was found that their Team Learning ($\overline{X} = 4.07$), Mental Model ($\overline{X} = 3.90$), Shared Vision ($\overline{X} = 3.97$) and Personal Mastery perceptions ($\overline{X} = 4.18$) were found to be high. According to mean scores ($\overline{X} = 4.26$) obtained from the scale, teachers responded with "always" regarding their perceptions on and the total score points to a high level of favorable perception ($\overline{X} = 42.61$) in regards to distributed leadership among teachers. In other words, teachers had favorable perceptions related to school administrators' distributed leadership behaviors.

Table 2 presents Mann-Whitney U results for teachers' learning school and distributed leadership perceptions based on gender.

			on (Gender			
Scale	Sub dimensions	Gender	n	$\overline{\mathbf{X}}$	Rank Total	U	р
	Team	Female	172	133,30	22927,50	8040 500	722
	Learning	Male	96	136,65	13118,50	8049,500	.733
	Mental	Female	172	132,25	22746,50	7969 500	501
Learning	Models	Male	96	138,54	13299,50	7868,500	.521
Organization	Shared Vision	Female	172	138,08	23750,00	E < 10,000	200
		Male	96	128,08	12296,00	7640,000	.299
	Personal	Female	172	141,04	24118,00	7004.000	0.40*
	Mastery	Male	96	121,46	11660,00	7004,000	.042*
		Female	172	134.90	23068,50		
	Total	Male	96	132.39	12709,50	8053,500	.798
Distributed		Female	172	131.05	22541,00		
Leadership		Male	96	140.68	13505,00	7663,000	.328

Table 2. Mann-Whitney U Results for Teachers' Learning School and Distributed Leadership Perceptions based

Table 2 demonstrates that gender did not generate significant differences on teachers' perceptions of learning schools, on Team Learning, Mental Models and Shared Vision sub dimensions of learning schools and on distributed leadership (p>.05). Accordingly, it can be argued that female and male teachers had similar perceptions on learning schools, on Team Learning, Mental Models and Shared Vision sub dimensions of learning schools and on distributed leadership. It was identified that gender played a significant role in teacher perceptions in regards to Personal Mastery sub dimension of learning schools (p<.05). According to the findings, female teachers' perceptions (\overline{X} =141.04) were higher than those of male teachers (\overline{X} =121.46).

Table 3 presents the results of the Kruskal-Wallis test conducted to explore teacher perceptions on learning schools and distributed leadership based on the number of in-service training events they attended.

Sub dimensions	Number/in- service training	Ν	Rank Sum	sd	χ2	р	Significant diff.
	1-3	35	137,37				
Team Learning	4-7	95	126,41	3	3,666	.300	-
	8-10	68	129,91				
	11 or more	70	148,56				
	1-3	35	135,91				
Mental Models	4-7	95	123,70	3	3,321	.345	-
	8-10	68	138,57				
	11 or more	70	144,71				
	1-3	35	138,51				
Shared Vision	4-7	95	118,77	2	6004	075	
	8-10	68	141,13	3	6,904	.075	-
	11 or more	70	147,72				
	1-3	35	139,93				
Personal	4-7	95	119,51	3	6,425	.093	-
Mastery	8-10	68	136,03				
	11 or more	70	148,76				
	1-3	35	136,31				
Total Scale	4-7	95	121,14	3	5,378	.146	
	8-10	68	135,21				
	11 or more	70	149,14				
	1-3	3	5 45,51				
Distributed	4-7	95	123,39	3	3,485	.323	
Distributed leadership	8-10	68	136,33	3	3,483	.323	-
ieudersnip	11 or more	70	142,48				

Table 3. Kruskal-Wallis Results for Teachers Perceptions on Learning Schools and Distributed Leadership
according to Number of In-Service Training Events Attended by Teachers

According to Table 3, the number of in-service training attendance did not generate any significant differences on teacher perceptions in regards to learning schools, Team Learning, Mental Models, Shared Vision and Personal Mastery sub dimensions of learning schools and distributed leadership (p>,05). Teachers who had attended the different number of in-service training events had similar learning school and distributed leadership perceptions.

Table 4 displays the analysis results for the Kruskal-Wallis test conducted to determine teacher perceptions on learning schools and distributed leadership based on the number of projects implemented at the school.

Table 4. Kruskal-Wallis Results for teacher Perceptions on Learning Schools and Distributed Leadership based
on the Number of Projects Implemented at School

Scale	Number of projects	Ν	Rank Sum	sd	χ2	р	Significant diff.
	None	60	118,72				
Team Learning	1-3	122	135,75	4	4,135	.388	-
	4 or more	86	128,55				
	None	60	123,41			.354	
Mental Models	1-3	122	130,34	4	4,407		-
	4 or more	86	129,34				
	None	60	116,52				
Shared Vision	1-3	122	138,09	4	5,208	.267	-
	4 or more	86	124,09				

	None	60	108,81				
Democral Masterry	1-3	1-3 122 142,5		4	9,291	.074	-
Personal Mastery	4 or more	86	129,95				
	Yok	60	112,97	_			
Learning school	1-3	122	136,46	3	6,424	.170	-
Learning school	4 or more	86	141,64				
	None	60	127,01				
Distributed Leadership	1-3	122	137,13	3	2,911	.573	-
Leavership	4-6	86	127,81				

Table 4 demonstrates that the number of projects implemented at schools did not create significant differences in teacher perceptions on learning schools, on Team Learning, Mental Models, Shared Vision and Personal Mastery sub dimensions of learning schools and on distributed leadership (p>,05). Teachers who were employed at schools that implemented the different number of projects were found to have similar perceptions of learning schools and distributed leadership.

Table 5 presents the results of the Kruskal-Wallis test performed to explore teacher perceptions on learning schools and distributed leadership according to the number of teachers employed at schools.

Scale	Number of teachers	Ν	Rank Sum	sd	χ^2	р	Significant diff.
	A.1-15	32	123,60				4111
	B.16-30	101	114,52	4	13,492	.009*	E-A, E-B,
Teens Leessine	C.31-45	54	129,97				E-C, E-D,
Team Learning	D.46-60	61	138,60				С-В, D-С.
	E.61 or more	20	179,53				
	A.1-15	32	102,68				B-A, D-A,
	B.16-30	101	120,50	4	15,798	.003*	Е-А, С-В,
Mental Models	C.31-45	54	136,91				E-C.
	D.46-60	61	140,03				
	E.61 or more	20	174,13				
	A.1-15	32	107,58				B-A, E-A,
Shared Vision	B.16-30	101	144,20	4	12,564	.014*	E-C.
Shareu vision	C.31-45	54	120,24				
	D.46-60	61	132,37				
	E.61 or more	20	172,35				
	A.1-15	32	115,73				
Personal	B.16-30	101	146,24	4	7,557	.104	-
Mastery	C.31-45	54	122,77				
·	D.46-60	61	126,59				
	E.61 or more	20	153,43				
	A.1-15	32	112,23				
Learning school	B.16-30	101	126,95	4	15,389	.004*	E-A, E-C, E-D, C-B.
	C.31-45	54	142,03				<u>н</u> -д, с-д.
	D.46-60	61	135,90				
	E.61 or more	20	178,80				

Table 5. Kruskal-Wallis Results for teacher Perceptions on Learning Schools and Distributed Leadership based
on the Number of Teachers Employed at School

	A.1-15	32	117,40				
Distributed	B.16-30	101	136,26	4	15,204	.004*	E-A, E-B, E-C, E-D.
Leadership	C.31-45	54	127,14				Е-С, Е-Д.
-	D.46-60	61	126,87				
	E.61 or more	20	195,63				

According to Table 5, number of teachers employed at school caused a significant difference in teachers' perceptions of learning schools, on Team Learning, Mental Models and Shared Vision sub dimensions of learning schools and on distributed leadership (p<,05); however, there was no significant difference in Personal Mastery of sub dimension of learning schools based on the number of teachers employed at a given school (p>,05). According to Mann-Whitney U test results performed to determine the range of number of teachers that created a significant difference in teachers' perceptions of learning schools, on Team Learning, Mental Models and Shared Vision sub dimensions of learning schools and on distributed leadership, teachers employed at schools with a staff of 61 or more teachers had higher level of perceptions on learning schools compared to teachers employed at schools with a staff of 1-15 teachers (\bar{x} =20,68).

It was identified that learning school perceptions of teachers employed at schools with a staff 31-45 ($\bar{\mathbf{x}}$ =84.51) were higher compared to those employed at schools with a staff of 16-30 ($\bar{\mathbf{x}}$ =65.81); learning school perceptions of teachers employed at schools with a staff of 61 or more ($\bar{\mathbf{x}}$ =50.78) were higher compared to those employed at schools with a staff of 61 or more ($\bar{\mathbf{x}}$ =50.78) were higher compared to those employed at schools with a staff of 61 or more ($\bar{\mathbf{x}}$ =32.58) and learning school perceptions of teachers employed at schools with a staff of 61 or more ($\bar{\mathbf{x}}$ =31.05) were higher compared to those employed at schools with a staff of 46-60 ($\bar{\mathbf{x}}$ =37.70).

According to Mann-Whitney U test results performed to determine the range of teachers that created a significant difference in teachers' perceptions on the Team Learning sub dimension of learning schools, team learning perceptions of teachers employed at schools with a staff of 61 or more ($\bar{\mathbf{x}}$ =32.68) were higher compared to those of teachers employed at schools with a staff of 1-15 ($\bar{\mathbf{x}}$ =21.69); team learning perceptions of teachers employed at schools with a staff of 1-15 ($\bar{\mathbf{x}}$ =21.69); team learning perceptions of teachers employed at schools with a staff of 61 or more ($\bar{\mathbf{x}}$ =57.90); team learning perceptions of teachers employed at schools with a staff of 61 or more ($\bar{\mathbf{x}}$ =32,51); team learning perceptions of teachers employed at schools with a staff of 61 or more ($\bar{\mathbf{x}}$ =50,98) were higher compared to those of teachers employed at schools with a staff of 61 or more ($\bar{\mathbf{x}}$ =50,70) were higher compared to those of teachers employed at schools with a staff of 61 or more ($\bar{\mathbf{x}}$ =50,70) were higher compared to those of teachers employed at schools with a staff of 61 or more ($\bar{\mathbf{x}}$ =60,70) were higher compared to those of teachers employed at schools with a staff of 16-30 ($\bar{\mathbf{x}}$ =60,70) were higher compared to those of teachers employed at schools with a staff of 16-30 ($\bar{\mathbf{x}}$ =60,70) were higher compared to those of teachers employed at schools with a staff of 16-30 ($\bar{\mathbf{x}}$ =84.00) were higher compared to those of teachers employed at schools with a staff of 16-30 ($\bar{\mathbf{x}}$ =66.78) and team learning perceptions of teachers employed at schools with a staff of 46-60 ($\bar{\mathbf{x}}$ =64,38) were higher compared to those of teachers employed at schools with a staff of 46-60 ($\bar{\mathbf{x}}$ =64,38) were higher compared to those of teachers employed at schools with a staff of 41-45 ($\bar{\mathbf{x}}$ =51,75).

According to Mann-Whitney U test results performed to determine the range of teachers that created a significant difference in teachers' perceptions on the Mental Models sub dimension of learning schools, mental model perceptions of teachers employed at schools with a staff of 16-30 ($\bar{\mathbf{x}}$ =71,28) were higher compared to those of teachers employed at schools with a staff of 1-15 ($\bar{\mathbf{x}}$ =50,94); mental model perceptions of teachers employed at schools with a staff of 1-15 ($\bar{\mathbf{x}}$ =50,94); mental model perceptions of teachers employed at schools with a staff of 1-15 ($\bar{\mathbf{x}}$ =38,39); mental model perceptions of teachers employed at schools with a staff of 1-15 ($\bar{\mathbf{x}}$ =34,13) were higher compared to those of teachers employed at schools with a staff of 1-15 ($\bar{\mathbf{x}}$ =20,76); mental model perceptions of teachers employed at schools with a staff of 1-15 ($\bar{\mathbf{x}}$ =83,79) were higher compared to those of teachers employed at schools with a staff of 16-30 ($\bar{\mathbf{x}}$ =67,18) and mental model perceptions of teachers employed at schools with a staff of 16-30 ($\bar{\mathbf{x}}$ =67,18) and mental model perceptions of teachers employed at schools with a staff of 31-45 ($\bar{\mathbf{x}}$ =83,79) were higher compared to those of teachers employed at schools with a staff of 16-30 ($\bar{\mathbf{x}}$ =67,18) and mental model perceptions of teachers employed at schools with a staff of 31-45 ($\bar{\mathbf{x}}$ =83,79).

According to Mann-Whitney U test results performed to determine the range of teachers that created a significant difference in teachers' perceptions on the Shared Vision sub dimension of learning schools, shared vision perceptions of teachers employed at schools with a staff of 16-30 ($\bar{\mathbf{x}}$ =70,79) were higher compared to those of teachers employed at schools with a staff of 1-15 ($\bar{\mathbf{x}}$ =52,53); shared vision perceptions of teachers

employed at schools with a staff of 61 or more ($\bar{\mathbf{x}}$ =33,48) were higher compared to those of teachers employed at schools with a staff of 1-15 ($\bar{\mathbf{x}}$ =21,18) and shared vision perceptions of teachers employed at schools with a staff of 61 or more ($\bar{\mathbf{x}}$ =47,93) were higher compared to those of teachers employed at schools with a staff of 31-45 ($\bar{\mathbf{x}}$ =33,64).

According to Mann-Whitney U test results performed to determine the range of teachers that created a significant difference in teachers' perceptions on distributed leadership, distributed leadership perceptions of teachers employed at schools with a staff of 61 or more ($\bar{\mathbf{x}}$ =35,25) were higher compared to those of teachers employed at schools with a staff of 1-15 ($\bar{\mathbf{x}}$ =20,03); , distributed leadership perceptions of teachers employed at schools with a staff of 61 or more ($\bar{\mathbf{x}}$ =83,35) were higher compared to those of teachers employed at schools with a staff of 16-30 ($\bar{\mathbf{x}}$ =56,57); distributed leadership perceptions of teachers employed at schools with a staff of 31-45 ($\bar{\mathbf{x}}$ =32,14) and distributed leadership perceptions of teachers employed at schools with a staff of 61 or more ($\bar{\mathbf{x}}$ =36,55) were higher compared to those of teachers employed at schools with a staff of 61 or more ($\bar{\mathbf{x}}$ =36,65).

Table 6 demonstrates the results of Mann-Whitney U test performed to examine teachers' perceptions of learning schools and distributed leadership according to their habit of reading daily newspapers.

Scale	Sub dimensions	Reading newspapers	n	$\overline{\mathbf{X}}$	Rank Sum	U	р
	Team Learning	Yes	178	136,55	24442,50	(524 500	110
	8	No	90	120,61	10010,50	6524,500	.112
Learning organization	Mental Models	Yes	178	135,67	24285,00	((82,000	100
		No	90	122,51	10168,00	6682,000	.188
	Shared Vision	Yes	178	135,39	24234,50	(722 500	212
		No	90	123,11	10218,50	6732,500	.212
	Personal Mastery	Yes	178	138,28	24614,00	6001.000	020*
		No	90	115,39	9577,00	6091,000	.020*
	Total	Yes	178	137,14	24411,50	6293,500	.044*
		No	90	117,83	9779,50		
Distributed Leadership		Yes	178	133,40	23341,00	7663,000	.728
Leavership		No	90	130,88	11112,00	,005,000	.720

 Table 6. Results of the Mann-Whitney U Test Performed to Examine Teachers' Perceptions on Learning

 Schools and Distributed Leadership according to Their Habit of Reading Daily Newspapers

According to Table 6, while the variable of reading daily newspapers created significant differences in teachers' perceptions on learning school and its sub dimension of personal mastery (p<.05), it did not cause any meaningful differences on Team Learning, Mental Models and Shared Vision sub dimensions of learning school and on distributed leadership perceptions (p>.05). It was found that learning school perceptions of teachers who read newspapers daily (\overline{X} =137,14) were higher than those who did not (\overline{X} =117,83) and personal mastery perceptions of teachers who read newspapers daily (\overline{X} =138,28)were also higher than the teachers who did not have a habit of reading daily newspapers (\overline{X} =115,39).

Results of the correlation analysis conducted to determine the relationship between teacher perceptions on learning school, its sub dimensions and distributed leadership are presented in Table 7.

Table 7. Correlation Table for the Relationships between Teacher Perceptions on Learning School and Teacher
Perceptions on Distributed Leadership

Variable	TL	MM	SV	PM	LS
1.DL	0.52**	0.58^{**}	0.50^{**}	0.37**	0.62**

p<.05**. Correlation is significant at 0.01 level of significance (2-tailed).

Note. TL: team learning; MM: mental models; SV: shared vision; PM: personal mastery; LS: learning school; DL: Distributed Leadership.

Table 7 presents a positive and moderate relationship between teachers' perceptions on learning schools and on distributed leadership (r= .62, p< .05). Positive and moderate relationships were identified between teachers' team learning perceptions and their distributed leadership perceptions (r= .52, p< .05); teachers' mental models perceptions and their distributed leadership perceptions (r= .58, p< .05); their shared vision perceptions and their distributed leadership perceptions (r= .50, p< .05) and their perceptions and their distributed leadership perceptions (r= .50, p< .05) and their perceptions and their distributed leadership perceptions (r= .50, p< .05) and their perceptions and their distributed leadership perceptions (r= .37, p< .05).

Discussion and Conclusion

The study aimed to determine the relationship between teachers' perceptions of distributed leadership and their perceptions on schools as learning organizations and to identify whether these perceptions differ according to the following demographic characteristics: gender, seniority, level of education, participation in in-service training events, number of projects implemented in the school, number of teachers in the school and habit of reading daily newspapers.

The results show that teachers' learning school perceptions and their perceptions of learning school subdimensions such as Team Learning, Mental Models, Shared Vision, and Personal Mastery were high. Many studies conducted to identify teacher perceptions on learning schools identified the high level of favorable perceptions (Alp, 2007; Bal, 2011; Banoğlu, 2009; Doğan & Yiğit, 2015; Jokic, Cosic, Sajfert, Pecujlija & Pardanjac, 2012; Yıldız, 2011). The results of this study corroborate these findings as well. Doğan and Yiğit (2015) explained the need for assessing learning schools as functional structures with a high level of teacher perceptions on learning schools. In this sense, learning schools can improve the functionality of schools and quality of education. In addition, the fact that schools are open to learning in the 21st century, where transformation and innovation are rapid, is important in terms of integrating them into these transformations and innovations.

Teachers' perceptions of team learning, which is a learning school sub-dimension, were found to be high. Studies in literature conducted to investigate learning organizations (Alp, 2007; Banoğlu, 2009; Doğan & Yiğit, 2015; Erdem & Uçar, 2013; Güçlü & Türkoğlu, 2003; Kılıç, 2009) identified high teacher perceptions towards team learning. In their studies, Güleş (2007), Subaş (2010) and Bal (2011) identified low levels of team learning in teachers. When teachers are open to common goals and orientations, share their experiences, new knowledge and practices with each other, carry out their work as a team and support each other, the schools will definitely transform into learning schools because these teacher behaviors reflect the characteristics of the learning school's team learning dimension (Uğurlu, Doğan, & Yiğit, 2014).

This study also identified a high level of teacher perceptions in regards to mental models, a learning school subdimension. Güçlü and Türkoğlu (2003), Banoğlu (2009), Erdem and Uçar (2013) and Doğan and Yiğit (2015) also found that teachers' perception of mental models was high. Contrary to these studies, some studies in the literature identified low levels of teacher perceptions in regards to mental models (Alp, 2007; Güleş, 2007; Kılıç, 2009; Subaş, 2010; Bal, 2011). The teacher can develop their learning potentials and transform their schools into learning schools via the availability of learning opportunities offered at the school, administrators' support for teacher aspirations and acceptance of each teacher as equal and respected individuals. These are the important elements of mental models which constitute a significant dimension of learning schools. In this respect, it may be easier for teachers with high levels of perception of mental models to help transform their schools into learning schools.

Teachers' shared vision perceptions, another sub dimension of learning schools, were identified to be high in the study. Literature presents some studies where teachers' shared vision perceptions were identified to be low (Aksu, 2013; Bal, 2011; Erdem and Uçar, 2013; Güçlü & Türkoğlu, 2003; Güleş, 2007; Kılıç, 2009; Subaş, 2010). However, Banoğlu (2009), Doğan and Yiğit (2015) reported that teachers had high perceptions of shared vision dimension of learning schools. Ensuring active participation of teachers in the process of identifying the

school vision by taking their ideas will facilitate the adoption of the school vision by teachers and encourage them to take part in tasks to realize the adopted vision. In this sense, determining the school vision with the contribution of teachers and informing the new teachers about the school vision can contribute to activities undertaken to transform the school into a learning organization. the school is a learning school. Schools have to be organizations that are open to transformation and innovation. In this context, schools can achieve high standards of quality and become learning schools only by changing their visions as a result of innovations and advances. When schools create a vision based on lifelong learning, the number of activities and projects based on research and learning will increase, making it easier for schools to become learning schools.

Based on research results, teacher perceptions about personal mastery, a sub-dimension of learning schools, were high. In this regard, it can be argued that teachers follow professional studies and publications related to their field and consequently develop themselves and learn new information by consulting their colleagues. It can also be argued that teachers participate in seminars, courses, and workshops that contribute to their professional development and that they exchange information with their colleagues who work at other schools. It is believed that these elements are effective for schools to be learnings organizations. Doğan and Yiğit's (2015) study, which reported a high level of personal mastery perception among teachers, corroborate the findings of this study. Literature also presented studies which identified low levels of personal mastery perceptions for teachers (Bal, 2011; Banoğlu, 2009; Erdem & Uçar; 2013; Güleş, 2007; Subaş, 2010). The fact that studies produced different results may be due to differences in study samples, differences in the use of individual skills and competencies by teachers in the years when the studies were conducted, differences in professional development opportunities that are offered or easier access to professional publications or courses in the 21st century.

According to the research results, teachers' distributed leadership perceptions were high. Teachers regard school administrators as leaders who practice distributed leadership. School administrators can follow distributed leadership practices by ensuring the participation of teachers, students and parents in decisionmaking processes and by allowing the opportunity for stakeholders to contribute to the solution of the problems to achieve school's objectives. When school administrators behave in this manner, they can be leaders who practice distributed leadership by transferring their powers and responsibilities. In addition, support by school administrators for the educational activities of teachers, support of teachers to the school administration, completion of school tasks in collaboration and interaction with teachers will facilitate the tasks of the school administrator. Otherwise, the school administrator may not be able to handle all these tasks alone. Hoy and Miskel (2008) stressed the importance of distributed leadership practices in schools by stating that it is difficult for a single person to achieve success in tasks and actions required at schools. Higgins, Ishimaru, Holcombe, and Fowler (2011) stated that the highly empowering leadership practices are necessary for structuring learning schools. In this sense, it can be argued that school administrators' distributed leadership practices will increase the learning potential of schools because, school administrators can demonstrate that teachers, parents and other stakeholders are valued by modeling participative behaviors in communication, decision making, transformation, innovation, and problemsolving. As a result, teachers, parents, and other stakeholders will strive to contribute more to the development of their schools, which will consequently help increase their learning needs and therefore they will study, read and exchange ideas at a greater extent. As a matter of fact, it can be said that schools with participative school administrators can progress faster in their course to becoming learning schools.

According to the results of this study, female and male teachers' perceptions of learning schools and its subdimensions of team learning, mental models and shared vision perceptions were similar. Studies in the literature (Aksu, 2013; Doğan &Yiğit, 2015; Subaş, 2010; Töremen, 1999; Yiğit, 2013), are parallel to the findings in this study. However, based on the findings of this study, female teachers' perceptions of personal mastery were higher than those of male teachers. In this sense, this study differs from the above-mentioned studies. According to this result, it can be argued that compared to male teachers, female teachers are more interested in trying to renew themselves by keeping up with the developments in their field, more willing to learn new things by asking about them, more involved in courses and training programs that contribute to their professional development and they exchange information with their colleagues in other schools. Accordingly, it can be thought that female teachers are more willing to develop their professional capacities. Although female and male teachers' distributed leadership perceptions were found to be similar, male teachers' distributed leadership perceptions were slightly higher than those of female teachers. Yılmaz (2003) also stated in his study that gender did not make a significant difference in participants' perception of distributed leadership. In this respect, the study supports the results of this research. Parallel to the findings of this study, the study conducted by Bakır (2013) reported that the male teachers had higher perceptions in regards to distributed leadership compared to female teachers. This difference may be related to the fact that the majority of school administrators are male and that male teachers spend more time with the school administrators outside the school. The findings show

392 Ertürk & Sezgin Nartgün

that teachers with different in-service training attendance backgrounds had similar perceptions in regards to learning schools, learning school sub-dimensions (team learning, mental models, shared vision, personal mastery) and distributed leadership. It can be argued that lack of impact in in-service training events to develop learnings school and distributed leadership perceptions may be related to a lack of desired productivity in these training. It is believed that in-service training programs can be organized in a manner to allow teachers to develop themselves and help them improve their competences. red to female teachers. When in-service training programs are delivered effectively, they can be instrumental in transforming schools as learnings organizations. Literature review points out that Kılıç (2009) identified teachers follow the publications related to their professional development and participate in seminars and panels organized in their schools to improve themselves. Aksu (2013) and Yıldız (2011) determined that in-service training does not contribute to teachers' team learning. Studies in the literature related to the learning schools are similar to the results of this study. However, analysis of teacher perceptions of learning schools based on the number of attendances in in-service training activities demonstrated that perceptions of teachers who attended in-service training events 11 times or more were higher than those who attended a smaller number of in-service training. This finding indicates that in-service training is important to inform teachers about new developments and contribute to their professional improvements in the 21st century which is called the information age.

It was found in the study that teachers who worked at schools with the different number of current projects had similar perceptions in regards to learning schools and learning school sub-dimensions (team learning, mental models, shared vision, personal mastery). Projects are important activities for the development of schools because each new project provides new learning opportunities. Projects can enable teachers to work together as a team and to present their individual competencies by exchanging ideas. Teachers can help their colleagues learn by sharing their knowledge, skills, and competencies. In addition, teachers who cannot participate in the project can be included in the project by explaining the practices and implementations to support their learning. When teachers are assigned project tasks ranging from project preparation to dissemination to the use of project results in a just and fair manner, teachers will feel valued and their participation in activities will increase as schools in the province or the districts will have increased satisfaction from learning and they will seek new projects to improve themselves. This will also improve their learning and research skills. In line with these explanations, it can be argued project preparation and implementation is important elements for schools to become learning organizations.

The study also pointed out that teachers who worked in schools with the different number of projects had similar perceptions of distributed leadership. Projects can only be successful with cooperation and teamwork. Since the project production and implementation is not an activity that can be achieved by the school administrator alone, it is believed that the distributed leadership practices, which are carried out by administrators by transferring power to teachers by benefiting from their knowledge, skills, and expertise, are very important in the success of projects. In this sense, it can be argued that projects are important activities at schools since distributed leadership practices will contribute positively to the projects at the school and project preparation and implementation stages will be a good opportunity for schools to transform into learning organizations and for school administrators to experiment distributed leadership practices.

According to study results, learning school perceptions of teachers differed based on the number of teachers they worked with. Teachers who worked in schools with a high number of teachers had higher perceptions in regards to schools as learning organizations compared to teachers who worked in schools with fewer teachers. In his study, Yiğit (2013) stated that as the number of teachers in schools decreases, the perception of learning increases and this finding can be explained by the high level of communication in small groups. As a matter of fact, teachers may communicate better with each other in small groups, however, it can be argued that the group's learning level may be higher in larger groups because there is diversity and there are teachers with different skills, knowledge, and competence. In bigger schools, it may be difficult for teachers to get to know and communicate with each other, but the school administrator can use participative leadership features to create a place where teachers can communicate, engage in teamwork and organize activities that will enable teachers to learn from each other. Teachers who engage in information exchange with their colleagues with the help of these activities will have increased motivation for learning and will be able to improve themselves. In addition, when we consider the fact that larger schools have a higher number of teachers who attend courses, seminars, postgraduate education or who act as role models with their research or publications, it can be argued that these teachers will increase their colleagues' willingness to learn since they will set an example to other teachers or they exchange ideas with each other. As a matter of fact, the result obtained in this study also supports these assumptions.

According to the results of the study, it was found that team learning perceptions of teachers who worked at schools with 61 or more teachers were higher than teachers who had 1-15,16-30, 31-45 and 46-60 teachers in their schools and that team learning perceptions of teachers who worked in the schools with 31-45 and 46-60 teachers who worked at schools with 61 or more teachers who worked with 16-30 teachers at their schools. The fact that the teachers who worked at schools with 61 or more teachers had higher perceptions in this sub dimension may be related to the ease of teamwork at these schools due to the higher number of teachers and consequent increase in learning motivation as a result of achievement in teamwork and related tasks. Teamwork is important in terms of increasing teacher motivation by ensuring productivity in organizations and revealing and sharing knowledge and skills (Küçük, 2008). In this regard, it may be easier to create teams in bigger schools and teachers can find opportunities to learn within the team.

According to the results of the study, it was found that mental model perceptions of teachers who worked at schools with 16-30, 46-60 and 61 or more teachers were higher than teachers who had 1-15 teachers in their schools and mental model perceptions of teachers who worked at schools with 31-45 and 61or more teachers were higher than teachers who worked with 16-30 teachers. In this context, it can be argued that teachers who worked in schools with 16-30, 46-60 and 61 or more teachers are supported by their administrators, that they criticize their administrators when the situation calls for it, they can find learning opportunities and each teacher is treated equally, valued and respected. It can also be argued that teachers who worked in schools with 1-15 teachers may not have sufficient support from their administrators compared to teachers working in other schools, they cannot criticize their administrators and cannot find sufficient learning opportunities at their schools. It is believed that if school administrators at schools with a small number of teachers support teachers and provide them with learning opportunities, it will be easier for teachers to engage in activities that will make them feel valuable. In this sense, it is noteworthy that teachers in bigger schools had the higher level of perceptions. The differences caused by school size may be due to the fact that teachers in bigger schools may have more opportunities to learn from each other. In addition, higher mental models perception may be related to the fact that teachers in bigger schools are more diverse in relation to interests, abilities, knowledge, skills, and desires and that school administrators may assign tasks according to their interests, talents, knowledge, skills and wishes of teachers in these schools. Also, high level of perceptions in regards to mental models may be related to the fact that schools with a higher number of teachers produce more projects and social activities and therefore school administrators support these teachers to a higher extent.

According to the results of the study, it was found that shared vision perceptions of teachers who worked at schools with 16-30 and 61 or more teachers were higher than teachers who had 1-15 teachers in their schools and shared vision perceptions of teachers. Based on the result, it can be argued that a higher number of teachers may result in more knowledge about the school vision and that transformation-based vision can be established more easily at the school. Since the probability that finding teachers with various knowledge, skills, , and experiences is higher in larger schools, it is natural that change is regarded as valuable and important in these schools and that teachers employed at these schools are open to innovations and aim for lifelong learning practices.

This study found that distributed leadership perceptions of teachers differed based on staff size. According to the results of the study, it was found that distributed leadership perceptions of teachers who worked at schools with 61 or more teachers were higher than teachers who had 1-15, 16-30, 31-45 and 46-60 teachers in their schools. Schools may be regarded as the most appropriate organizations for distributed leadership practices due to both the large size and diversity of their stakeholders. By utilizing distributed leadership practices at schools, it is possible to improve the quality of both the schools and education and therefore schools may be more effective. In this respect, by practicing distributed leadership, administrators who work with a larger staff size can ensure that teachers at the school benefit from each other's experiences and ideas with the help of projects and activities that require cooperation and teamwork and facilitate achievement of school goals and objectives and the establishment of a learning school. Since it will be harder to realize school goals with a small number of teachers, larger staff sizes may be regarded as positive.

While team learning, mental models and shared vision perceptions of teachers were similarly based on the habit of reading daily newspapers, their learning school perceptions in general and personal mastery perceptions differed. Learning school perceptions and personal mastery perceptions of teachers who read daily newspapers were found to be higher than those who did not read daily newspapers. Güçlü and Türkoğlu (2003) reported that teachers followed professional publications and identified no differences between teachers based on reading daily newspapers. Keeping up with the current events and issues and transferring what is learned to students and colleagues may be useful to act as role models and also facilitate their learning. It is also believed that reading

daily newspapers will contribute to teachers' learning since it will allow discussions and exchange of information with colleagues about the current events.

Research result shows teachers' distributed leadership perceptions were similar regardless of their habit of reading daily newspapers. However, distributed leadership perceptions of teachers who had the habit of reading daily newspapers were slightly higher than those who did not read newspapers daily. School administrators can follow successful and effective distributed leadership practices by benefiting from teachers' knowledge, , and expertise. In this respect, reading daily newspapers can be regarded as important since it helps increase teachers' cultural information and provide them with information about the developments of the world which can be then transferred to the school setting. Hence, distributed leadership perceptions of teachers who had the habit of reading daily newspapers may be higher. Since school administrators who practice distributed leadership principles ensure participation of teachers by taking their knowledge and experiences into consideration to solve problems encountered at school and since reading daily newspapers contribute to knowledge acquisition for teachers, it is natural that the teachers with the habit of reading daily newspapers will have higher distributed leadership perceptions.

Positive and moderate level relationships were identified in the study between teachers' learning school and distributed leadership perceptions, team learning, mental models, shared vision and personal mastery perceptions and distributed leadership perceptions. Distributed leadership practice at schools, directly and indirectly, affect student achievement (Silins & Mulford, 2002). In this context, it can be argued that school administrators' participative distributed leadership practices will contribute to the success of educational implementations and student achievement since there is a positive and moderate level relationship between learnings organizations and distributed leadership.

Based on the results of the research to increase female teachers' distributed leadership perceptions, school administrators can assign more tasks or give more responsibilities to female teachers or ensure that they take part in more activities and take active roles in these activities. In order to increase teachers' learning school perceptions, the number of in-service training can be increased and teachers' participation can be encouraged by planning these training based on needs. Schools can be useful in creating learning schools by producing and implementing projects and facilitating distributed leadership practices of school administrators. The administrators of schools with few teachers can organize events, seminars, workshops, projects etc. in order to raise the perception of learning organization and distributed leadership in these schools. Since there is a relationship between the learning organization and distributed leadership, school administrators can benefit from distributed leadership practices to transform their schools into learning schools.

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