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The Mediating Role of Initiative Climate on the Relationship between Distributed Leadership and Organizational Resilience in Schools

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Abstract

This study investigated the mediating role of initiative climate on the relationship between distributed leadership and organizational resilience in schools. The study employed a cross-sectional design following quantitative methods. The sample consisted of 310 teachers recruited from different cities located in seven geographical regions of Turkey in 2020-2021 academic year using convenience sampling. Data were collected online (Google Forms) using the *Distributed Leadership Inventory*, *Personal Initiative Scale*, and *Organizational Resilience Scale*, all of which had acceptable validity and reliability. Participants “agreed” with initiative climate and organizational resilience in schools and school principals’ distributed leadership behaviors. There were positive correlations between the variables. The results showed that distributed leadership (leadership coherence and leadership functions) fosters initiative climate and organizational resilience in schools. Initiative climate also contributes to organizational resilience in schools. Lastly, it can be said that distributed leadership has a significant effect on schools’ resilience through initiative climate.

Key words: Distributed Leadership, Initiative Climate, Organizational Resilience.

Introduction

School leadership is becoming increasingly important in education in the 21st century, particularly in terms of educational reform and school development (Bush, 2016). There is a large body of research on school leadership, paving the way for numerous alternative and competitive models, such as distributed leadership (Gronn, 2010; Gümüş, Bellibaş, Esen & Gümüş, 2018), which is defined as a type of leadership whereby employees interact and become involved in managerial decisions, actions, and processes (Spillane, 2005). In distributed leadership, the main focus is on the distribution of leadership functions among members of an organization (Yukl, 2018), and collaboration lies at the heart of distributed leadership (Harris, 2010). Therefore, distributed leadership, which is an alternative to traditional leadership approaches (Kılınç & Arslan, 2020), is increasingly attracting the attention of educational organizations today, where cooperation, coordination and specialization are becoming increasingly important in the face of rapid flow of information and competition (Cemaloğlu, 2019).

School principals should be both leaders and influential figures because changes in education bring uncertainty, which shows that schools should have a climate of initiative. On the other hand, a school with stakeholders’ taking initiative is likely to have higher organizational resilience because they take initiative to overcome the problems to achieve organizational goals (Yukl, 2018). Resilient organizations can overcome challenges more easily, contributing to the capabilities of an organization, strengthening, and providing greater flexibility in the face of new activities (Vogus & Sutcliffe, 2007). However, it is not possible in today’s dynamic and turbulent environment for principals to create and maintain resilience at schools by themselves. Therefore, they should share their responsibilities with other stakeholders as much as they can. Distributed leadership can significantly generate a climate of initiative and improve school performance because teachers who assume some of the school responsibilities and take initiative are more likely to develop positive feelings and thoughts towards their schools. This allows them to collaborate with their colleagues, resulting in increased commitment and loyalty to ensure organizational success (Taşkın, 2016). Moreover, school principals’ distributed leadership also improves

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organizational resilience in the face of drastic changes (Andersson, Cäker, Tengblad & Wickelgren, 2019; Coutu, 2002; Horne, 1997; Linnenluecke, 2017).

In literature it is stated that there is a lack of profound understanding of the factors that might create and foster organizational resilience in terms of management and staff functioning (Shani, 2020). Drawing on this gap in literature, this study focused on principal leadership and schools' resilience since the mechanisms through which resilience of schools can be improved have not been clarified in literature yet. We, therefore analyzed the relationships among distributed leadership, climate of initiative and resilience of schools in this study. In this sense, the current study makes several contributions to the literature. First, it extends little research on organizational resilience in schools. Second, it provides insight into the effect of school leadership on resilience of schools and third, into the mechanisms that boost that effect.

Distributed Leadership

In recent years, there has been a growing interest in distributed leadership to facilitate its transition from an informal to formal context (Leithwood, Mascall, Strauss, Sacks, Nadeem & Yashkina, 2007). C. A. Gibb (1913-1994), an Australian leadership theorist, coined the term "*distributed leadership*" in his book "*Handbook of Social Psychology*" (1954) (Gronn, 2002). Research on education focuses mostly on instructional leadership, teacher leadership, transformational leadership, or distributed leadership (Gümüş et al., 2018), the last of which is a dynamic process involving superior-subordinate interaction (Liu, Bellibaş & Printy, 2018). That dynamic process also shows how important interaction in distributed leadership is (Spillane, Halverson & Diamond, 2001). School principals and teachers interact to fulfill leadership responsibilities together, and therefore, play a key role in executing distributed leadership (Liu et al., 2018). In distributed leadership, the school principal, managerial team, and teachers serve various leadership functions (Liu, 2020). Distributed leadership focuses on the delegation of leadership, distribution of responsibilities, and joint decision-making in schools (Liu & Werblow, 2019). According to Lashway (2003), distributed leadership requires that school principals delegate some of their responsibilities to school staff or distribute leadership to all stakeholders. Menon (2013) defines distributed leadership as functions shared by all members of an organization rather than one person's monopoly over them. Distributed leadership is interested in making use of know-how wherever it is, rather than having it in the organization merely for the sake of having it (Arslan & Ağıroğlu Bakır, 2014; Harris, 2004). Therefore, distributed leadership can be achieved only when leadership functions are distributed among school stakeholders (Baloğlu, 2011; Louis, Murphy, Mayrowetz & Smylie, 2013; Rutherford, 2009). Hulpia, Devos, and Rosseel (2009a) approach distributed leadership from three different perspectives: (1) *formal distribution of support and supervision of leadership functions*, (2) *leadership team coherence*, and (3) *participation of all school stakeholders in decision making*. As for distributed leadership, Elmore (2000) seeks answers to how employees can adopt a new working style, what methods should be used to enable them to take responsibility in activities to generate new ideas, and what types of reward systems those activities should involve.

Schools are knowledge-intensive organizations where leadership should be carefully distributed (Spillane, 2005). Therefore, distributed leadership requires that teachers perceive their roles differently and assume in-and-out-of-class responsibilities (Murphy, 2005). However, leadership can be distributed differently (Ritchie, 2005). The first is *collaborative leadership*, which highlights teacher-teacher collaborative interactions. In other words, a teacher's actions feed off and into her interaction with other teachers, encouraging his/her to try new things and share them with his/her colleagues. The second is *coordinated leadership*, where teachers, alone or in collaboration with their colleagues, perform different tasks assigned or coordinated by a leader. The third is *shared distribution*, where leadership is shared between two or more leaders who work separately yet interdependently. On the other hand, MacBeath, Oduro, and Waterhouse (2005) classify leadership distribution as formal, pragmatic, strategic, incremental, opportunistic, and cultural phenomenon. *Formal distribution* of leadership is based on a job description or an assigned role. *Pragmatic distribution* is the distribution of workload to achieve specific goals. *Strategic distribution* is assigning tasks to employees to help them develop leadership skills. *Incremental distribution* is to give more responsibility to employees as they prove their ability to exercise leadership. *Opportunistic distribution* is used in situations where capable teachers interested in assuming more responsibility extend their roles to school-wide leadership. And lastly, *cultural distribution* is a type of leadership reflecting culture, values, and traditions. Spillane and Mertz (2015) argue that distributed leadership is based on two fundamental assumptions: (1) *not only school principals but also other staff are involved in school administration*, and (2) *a theory of leadership should focus on leading or managing rather than on the actions of the leader*.

Given the explanations above, we can state that distributed leadership is about expansion rather than possession (Harris, 2008) and involves numerous educational components and feeds almost entirely off educational settings

(Göksoy, 2015). According to MacBeath et al. (2005), three phases of distributed leadership are assigning responsibilities to others (*delegation*), widening the scope of leadership to others with no formal leadership (*expansion*), and creating a culture of self-confidence and shared goals (*mutual trust*). Schools have goal-oriented systems and employees with different levels of competence. Therefore, it is of paramount importance to bring together all stakeholders under the umbrella of distributed leadership to achieve goals. This productive and collaborative climate is a hallmark of a cooperation, which suggests that distributed leadership is essential for schools (Aslan & Ağıroğlu Bakır, 2015). It promotes the dissemination of knowledge and turns schools into units where stakeholders can work on and discuss different ideas and strategies (Sesky, 2014). Distributed leadership pays particular attention to communication and cooperation between teacher leadership, student leadership, parent leadership, and other school-related leadership types. However, it does not ignore or downplay the formal leader (school principal) but gives him/her the responsibility of keeping stakeholders together and increasing their productivity (Harris, 2004).

Initiative Climate

Employees who interact with and can take initiative within the organization when necessary have positive thoughts towards their organizations, work in harmony with other employees and strive to increase their success (Taşkın, 2016). This positive climate within an organization promotes personal initiative. An organizational climate of initiative is also about personal initiative through proactive motivation and self-efficacy (Hong, Liao, Raub & Han, 2016). Personal initiative is defined as a set of proactive behaviors to overcome obstacles and achieve work-related goals and tasks (Fay & Frese, 1998, 2000, 2001; Frese, 2001; Frese, Fay, Hilburger, Leng & Tag, 1997; Frese, Kring, Soose & Zempel, 1996). It is generally about subproblems of a task or issues that are not entirely related to the task. Personal initiative sometimes implies that one assumes the responsibility of an idea that one has not executed yet (Frese, Garst & Fay, 2007). According to Fay and Frese (2001), the components of initiative climate are environmental support, knowledge and skills, cognitive abilities, and motivational factors (personality traits and orientations). Similarly, personal initiative is affected by three environmental factors: control in the workplace, job complexity, and support by the organization and the manager. An employee motivated by those factors is more likely to exhibit self-initiated behaviors to overcome obstacles and achieve goals. Control in the workplace and job complexity are the factors with the greatest impact. In order for an employee to take initiative, s/he should have a positive and comprehensive understanding of the job; that is, she should have job-related know-how, skills, and cognitive ability. Both personality traits and orientations determine what type of action one might take, while orientation is behavioral tendencies with moderate situational specificity (Fay & Frese, 2001).

Employees with personal initiative can take self-initiated and proactive action to overcome obstacles and achieve goals (Frese, 2000, 2001; Frese et al., 1996; Hahn, Frese, Binnewies & Schmitt, 2012; Warr & Fay, 2001). However, their initiative may sometimes be disheartened by stakeholders who do not support a change or do not recognize an action which is not directly related to the organizational mission (Fay & Sonnentag, 2002). In this sense, self-efficacy is an important factor. It plays a partially mediating role between control and complexity and simultaneous initiative (Speier & Frese, 1997). Self-efficacy results in personal initiative and higher performance at work (Hakanen, Perhoniemi & Toppinen-Tanner, 2008; Lisbona, Palaci, Salanova & Frese, 2018). Employees also believe that personal initiative is about organization, management, working team, and an emotional bond with career (Den Hartog & Belschak, 2007). There are two ways to approach innovative behavior: initiative and creative. *Initiative behavior* is self-initiated, proactive, and long-term behavior displayed to overcome challenges and achieve goals. It takes self-initiated action time and effort to improve an idea enough to put it into practice. One is expected to be interested in one's job to start thinking proactively about an idea. Before making a proposal, a school principal should consider three variables; having an idea, making a recommendation, and the quality of the recommendation (Frese, Teng & Wijnen, 1999). *Personal initiative*, which increases the responsibility at the beginning of the creative process, is positively related to creativity as an output (Binnewies, Ohly & Sonnentag, 2007). On the other hand, personal initiative contributes significantly to both qualitative and quantitative creativity (Herrmann & Felfe, 2014) and increases entrepreneurial success (Glaub, Frese, Fischer & Hoppe, 2014). As can be seen, employees who take initiative can produce outcomes that are important for organizations.

Organizational Resilience

Resilience is defined as a person's capacity to successfully adapt to stressful situations and maintain mental well-being in the face of adversity. It also refers to coping with challenges and turning them into an advantage to improve the current position (Kantur & İşeri-Say, 2015). Today, just like individuals, organizations are also expected to develop resilience to cope with uncertainty, hold their ground in the face of crises, and promote

success (Duchek, 2020). Resilience helps organizations use their cognitive, emotional, relational, and structural resources to resolve uncertainty and consists of flexible, storable, transformable, and formable processes (Sutcliffe & Vogus, 2003; Vogus & Sutcliffe, 2007).

Organizational resilience is addressed from two dimensions: planned and adaptable (Lee, Vargo & Seville, 2013; Nilakant, Walker, Van Heugten, Baird & De Vries, 2014; Prayag, Chowdhury, Spector & Orchiston, 2018). The former involves restructuring in the face of destructive change (Horne & Orr, 1998; Kantur & İseri-Say, 2015; Somers, 2009) and the latter is about the ability to adapt to possible crises (Barasa, Mbau & Gilson, 2018) and adapting to problems (Zhang & Liu, 2012). As a response to multiple destructive events (Back, Ross, Duncan, Jaye, Henderson & Anderson, 2017; Paton, Smith & Violanti, 2000; Sahebjamnia, Torabi & Mansouri, 2018), it highlights the need for an adaptive approach to complexity and unpredictability (Andersson et al., 2019). It also requires system agility and robustness to survive and thrive (Kuntz, Malinen & Näswall, 2017).

Organizations perform analyses to understand their capacity and maintain performance in the face of adversaries, from internal crises to large-scale external influences (Linnenluecke & Griffiths, 2011). Intra-organizational structures and processes and extra-organizational factors indicate potential sources of protection and vulnerabilities at the organizational level. Chronic stressors caused by individual demands, restrictions, and inadequate resources are combined with individual characteristics (orientation, personality, values, and skills) that one turns to in the face of stressors (Riolli & Savicki, 2003). Organizational resilience gives a clue as to how an organization and its employees adapt to problems (Vogus & Sutcliffe, 2007). The kind of work, how, where, and with whom they do it always change. Therefore, employees should learn how to be resilient and adopt positive behaviors depending on the situation they are in (Mallak, 1998).

Crises also provide organizations with the opportunity to make new connections and reach new stakeholders (Chewning, Lai & Doerfel, 2013; Pal, Torstensson & Mattila, 2014; Rudolph & Repenning, 2002; Teixeira & Werther, 2013) because resilience is about accurate analysis of crises (Korkusuz & Kutluk, 2015) and turning adversity into an advantage (Günsel & Dodourova, 2018; Kumbalı, 2018; Öztürk, 2018). Unexpected events may occur in or outside the organizations. Different factors (type, time, place, frequency, and duration) affect organizations differently (Duchek, 2020). Organizations with resilience should manage their human resources strategically to make their employees more resilient, and hence, competent in the face of surprising and mostly unfavorable and uncertain situations (Annarelli & Nonino, 2016; Lengnick-Hall, Beck & Lengnick-Hall, 2011). Additionally, resilient organizations use financial, relational, structural, and technological resources differently than less resilient ones (Chewning et al., 2013). Therefore, organizational resilience can be addressed from a structural perspective specified by the complexity, variation, and distribution of activities among professional groups (Tillement, Cholez & Reverdy, 2009).

As stated above, resilience is based on the ability to communicate and restructure in the face of rapid changes or crises (Chewning et al., 2013; Ishak & Williams, 2018; Lengnick-Hall & Beck, 2005). Schools are exposed to changes (Limon & Sezgin-Nartgün, 2020) and other unexpected situations very frequently which brings the resilience to their agenda as a prominent issue. Although there is an abundance of research on school leaders' (Day, 2014; Özmusul, 2017), students' (Franklin, 2017) and teachers' resilience (Day & Hong, 2016; Haeussler, 2013; Hong, 2012; Taylor, 2013), few studies investigated the resilience of educational organizations. For example, a study conducted by Sezen-Gültekin (2019) revealed that resilience in higher education institutions had a significant effect on sustainability and was affected by organizational myopia. Weller and Anderson (2013) on the other hand, handled resilience in higher education institutions in terms of digital changes. A recent study in Israel has shown that resilience of schools is associated with social capital, team empowerment and goal interdependence (Shani, 2020). In the same study, it has also been stated that resilience of school is positively associated with functioning in crisis. Mirzaei et.al. (2020) examined the resilience of schools in disasters and the findings showed that it is directly associated with the functional, educational, safety, structural, nonstructural, architectural, commute routes, locational, and equipment domains. Resilience is of critical importance for schools because resilient schools will be more successful in terms of student achievement in the long-term than those showing fewer resilience characteristics (Norman et al., 2005 cited in Prada, 2007). Therefore, schools should build resilience. At *Regional Consultation Meeting on Education and Resilience* supported by UNICEF and UNESCO experts suggested nine priority paths to make schools more resilient against conflicts and crises (UNICEF, 2015). These are as follows:

- Analyzing the risk of conflict and crises,
- Inclusion of conflict and disaster risk reduction in the education sectors' planning and budgeting,
- Building a school safety framework within the planning,
- Adopting curriculum and textbooks for social cohesion and school safety,
- Providing equitable and safe access to education for all,

- Monitoring and evaluating the progress of initiatives for reducing risks,
- Fostering coordination and networks,
- Building a stronger education governance and encouraging local participation,
- Building capacity for risk reduction.

Relationships between Distributed Leadership, Initiative Climate, and Organizational Resilience in Schools

Today, we expect more from school principals than ever before, putting more responsibility on their shoulders and making them busier. This has made traditional school leadership obsolete (Lashway, 2003) and distributed leadership common in schools because it assigns different roles to all staff and assumes that they have different interests and strengths, taking advantage of which makes them more motivated. Besides, schools are too complex to be managed and transformed by one person. Therefore, school leadership should be shared among stakeholders rather than put in the hands of one person (Göksoy, 2015; Grenda, 2011; Lashway, 2003). When the leadership at schools are distributed, it may result in a better understanding and improvement in school problems (Timperley, 2005). Previous literature provides evidence for positive associations between distributed leadership and teachers' organizational commitment (Akdemir & Ayık, 2017), trust in colleagues and principals (Beycioğlu, Özer & Uğurlu, 2012; Mascall, Leithwood, Straus & Sacks, 2008), school culture and teachers' self-efficacy (DeMarco, 2018), collective teacher efficacy and organizational citizenship behaviour (Mascall et.al. 2008). These findings show that distributed leadership may result in desirable consequences for school organizations. Although, there is no prior study examining the relationship between distributed leadership and initiative climate, drawing upon aforementioned studies it can be said that when the leadership is distributed among stakeholders, a school environment convenient for initiative is created.

The style of leadership adopted can be influential on the resiliency of organizations (Karaköse, 2019; Teo, Lee & Lim, 2017). When leaders ensure the involvement and contribution of relevant stakeholders to decision making process, they nurture the resilience of organizations by building trust, empowering, motivating and creating commitment (Barasa et.al. 2018). In this sense, it can be anticipated that distributed leadership can contribute to the resilience capacity of organizations since it can make organizations more productive and responsive (Harris, 2011). Thus, Al-Harhi and Al-Mahdy (2017) found that distributed school leadership is a significant predictor of school effectiveness which includes efficiency, adaptability, and flexibility. On the other hand, Harris (2004) states that there is evidence suggesting that distributed leadership can contribute to school improvement. In another study, Kershner and Mcquillan (2016) highlights the importance of distributing authority as a precursor to adaptive change in schools. To enhance their organizational resilience capacity, schools need to be flexible, adaptive, and responsive in case of crises and challenges. As put forward by previous research, distributed school leadership may result in qualities which can boost resilience.

The basic ingredient of a resilient organization is "*a committed work force that is free to give the maximum effort*" (Deevy, 1995 cited in Gabriel, 2015) which points out the potential power of initiative climate as an antecedent of resiliency. Thus, initiative climate is characterized by self-initiated and proactive action to overcome obstacles and achieve goals (Hahn et al., 2012). When employees adopt such behaviors in favor of their organizations, it may contribute to overall resilience capacity in the organization since organizations depend on the actions taken by individuals in case of challenges. In crisis and change periods carrying out only responsibilities in formal job descriptions may not suffice. A cross-sectional study conducted in aviation sector revealed that organizational citizenship behaviors play a significant role in enhancing corporate resilience (Gabriel, 2015). On the other hand, Kim (2020) found that organizational resilience was positively associated with employees' intentions for proficiency, adaptivity, and proactivity. As for schools, Dlamini (2005) stated that the most distinctive aspect of resilient schools compared to non-resilient ones is the involvement of all stakeholders. In other words, it can be said that the more teachers and other school staff take initiative the more resilient schools can be built.

Change and uncertainty in schools make organizational resilience all the more important. Therefore, school principals should play a facilitating role in developing communication and information networks in schools (MacBeath et al., 2005). School culture should be conducive to distributed leadership (Printy & Liu, 2020) because teaching and distributed leadership play a vital role in the way the school climate promotes interaction, respect, and trust. Effective teaching and distributed leadership help school principals build respect and trust among teachers (Bellibaş & Liu, 2016) because distributed leadership ensures that all school stakeholders can benefit from all the wealth of the school. In such an environment where there is mutual trust and effective communication, teachers can take more initiative which in turn can also contribute to organizational resilience. Therefore, this study investigated the mediating role of the climate of initiative between distributed leadership

and organizational resilience in schools. Based on the relationships mentioned above, the following hypotheses were suggested:

H₁: Leadership functions significantly predicts organizational resilience.

H₂: Leadership functions significantly predicts initiative climate.

H₃: Leadership team coherence significantly predicts organizational resilience.

H₄: Leadership team coherence significantly predicts initiative climate.

H₅: Initiative climate significantly predicts organizational resilience.

H₆: Initiative climate mediates the relationship between leadership functions and organizational resilience.

H₇: Initiative climate mediates the relationship between leadership team coherence and organizational resilience.

Method

This section describes the research design, study sample, measures, and data collection and analysis procedures.

Research Design

This is a quantitative study employing a cross-sectional survey design. A cross-sectional study produces a 'snapshot' of a population at a particular point in time (Cohen, Manion & Morrison, 2005).

Sample

This is an internal validity study which does not aim to generalize the findings to a population but to reveal the relationships among variables (Kaya, 2015); so, it was not carried out on a population. However, in order to have a relatively more nationwide representative sample we reached teachers from different cities located in all seven geographical regions of Turkey. The sample consisted of 310 teachers (163 women; 147 men) recruited through convenience sampling (Patton, 2002). Considering the sample size, it is enough since there are fewer than five constructs in our model with more than three items which requires a minimum of 100 participants (Hair, Black, Babin & Anderson, 2014). Of participants, 237 (76.5%) had a bachelors and 73 (23.5%) had a master's degree. Fifteen participants (4.8%) were preschool teachers, 65 (21.0%) primary school teachers, 93 (30.0%) secondary school teachers, and 137 (44.2%) high school teachers. Thirty-eight participants (12.3%) had 0 to 5 years, 59 (19.0%) had 6 to 10 years, 51 (16.5%) had 11 to 15 years, 67 (21.6%) had 16 to 20 years, and 95 (30.6%) had ≥ 21 years of experience.

Data Collections Tools

Data were collected using three different measures. Detailed information is presented below.

Distributed Leadership Inventory

Participant' perceptions of distributed leadership in their schools were determined using the *Distributed Leadership Inventory (DLI)* developed by Hulpia et al. (2009b) and adapted to Turkish by Özdemir (2012). The DLI consists of two subscales; (1) leadership functions (13 items; sample item: "The principal explains his/her reason for criticism to teachers.") and (2) leadership team coherence (10 items; sample item: "Members of the leadership team know which tasks they have to perform."). The first subscale items are scored on a 5-point Likert-type scale (1=Never to 5=Always). The second subscale items are also scored on a 5-point Likert-type scale (1=Strongly Disagree to 5=Strongly Agree). The first subscale evaluated the perceptions of principals, head assistants, and assistant principals separately. The results showed that the subscale was valid and reliable for each task, and therefore, participants were asked to evaluate only their principals in line with the aim of the current study. Özdemir (2012) reported that the subscales of "leadership functions" and "leadership team coherence" had a Cronbach's alpha (internal consistency) of .96 and .98 for school principals, respectively.

Initiative Climate Scale

To measure initiative climate, we used the scale developed by Frese et al. (1997) to measure individual level initiative and adapted to Turkish for organizations by Kurt, Duyar, and Yakut (2015). The scale has a unidimensional structure with seven items (Sample item: "Whenever something goes wrong in the school, people search for a solution immediately.") scored on a 5-point Likert-type scale; (1=Strongly Disagree to 5=Strongly Agree). Turkish version of the scale had a Cronbach's alpha of .87 (Kurt, Duyar & Yakut 2015).

Organizational Resilience Scale

The level of resilience in schools was measured using *Organizational Resilience Scale (ORS)* developed by Katur and İşeri-Say (2015). ORS consists of three subscales and nine items (sample item, “*The organization I work for put up resistance not to lose in the face of unexpected/sudden or critical/bad situations.*”) scored on a 5-point Likert-type scale; (1=Strongly Disagree to 5=Strongly Agree). Sezen-Gültekin (2019) used ORS for higher education organizations and established its validity and reliability again. Results showed that the Turkish version of ORS had a unidimensional structure with a Cronbach’s alpha of .95.

We also calculated the goodness of fit indices and Cronbach’s alpha to establish the validity and reliability of the scales within this study. Table 1 presents the findings.

Table 1. Goodness of Fit Indices and Internal Consistency Coefficients

Scale	χ^2	df	χ^2/df	RMSEA	CFI	SRMR	α
LF	165.57	59	2.81	.08	.97	.03	.96
LTC	83.48	31	2.69	.07	.99	.02	.97
IC	19.76	9	2.20	.06	.99	.02	.95
OR	60.58	20	3.03	.08	.99	.02	.97

Note: LF: *Leadership functions*; LTC: *Leadership team coherence*; IC: *Initiative climate*; OR: *Organizational resilience*

As the findings in Table 1 indicates the scales had validity (Hair et. al. 2014) and internal consistency (Singh, 2007) within the scope of current study.

Data Collection

The study was approved by the Ethics Committee of Batman University (No:2020/5-17). Data were collected online through Google Forms. The researchers sent an electronic link to school principals in different provinces located in seven geographical regions of Turkey whom they knew and asked them to share the link on their schools’ WhatsApp groups.

Data Analysis

Data were analyzed using the Statistical Package for Social Sciences (SPSS 25.0) and Analysis of Moment Structures (AMOS 23.0) (Arbuckle, 2019). First of all, the data set were scanned to see if there were missing values and there were none of them. Afterwards, skewness and kurtosis values were calculated to check the distribution. Skewness (-.799 to -.607) and kurtosis (.080 to .700) ranged between the cut off values of -1.5 and +1.5, suggesting that data were normally distributed (Huck, 2012). Minimum-maximum values, arithmetic means, and standard deviations were calculated within the descriptive statistics. Pearson's correlation coefficient was used to reveal the relationships between the variables. On the other hand, simple mediation was used to determine the predictive relationships between the variables (Hayes, 2013; Karagöz, 2016; Sümer, 2000). Mediation models are used to account for the effect of an independent variable on a dependent variable. Before mediation analysis, the multivariate normal distribution was evaluated using multivariate kurtosis and its critical ratio (Byrne, 2016). The multivariate kurtosis and critical ratio were 669.930 and 104.290, respectively, suggesting a multivariate non-normal distribution. Therefore, the data were analyzed using the nonparametric bootstrapping with a confidence interval (CI) of 95% (Şimşek, 2007).

Findings

This section presents findings of descriptive analysis and structural equation modeling.

Descriptive Findings

Table 2 shows the descriptive statistics and correlations.

Table 2. Descriptive Statistics and Correlations

Variable	Descriptives				Correlations			
	Min.	Max.	Mean	SD	1	2	3	4
(1) LF	1.15	5.00	3.77	.82	1.00			
(2) LTC	1.00	5.00	3.63	.91	.817**	1.00		
(3) IC	1.00	5.00	3.67	.86	.701**	.795**	1.00	
(4) OR	1.00	5.00	3.72	.84	.778**	.843**	.873**	1.00

** $p < .01$; N=310; (Note: LF: Leadership functions; LTC: Leadership team coherence; IC: Initiative climate; OR: Organizational resilience)

Leadership functions, leadership team coherence, climate of initiative, and organizational resilience had arithmetic means of 3.77 (SD=.82), 3.63 (SD=.91), 3.67 (SD=.86), and 3.72 (SD=.84), respectively, all of which were relatively high. Moreover, the variables were positively and significantly correlated. Leadership functions were positively correlated with leadership team coherence ($r=.817$; $p < .01$), climate of initiative ($r=.701$; $p < .01$), and organizational resilience ($r=.778$; $p < .01$). Leadership team coherence was positively correlated with climate of initiative ($r=.795$; $p < .01$) and organizational resilience ($r=.843$; $p < .01$). Lastly, climate of initiative was positively correlated with organizational resilience ($r=.873$; $p < .01$).

Findings on Structural Equation Modeling

Structural equation modeling was used to determine the mediating role of initiative climate on the relationship between distributed leadership (*leadership functions and leadership team coherence*) and organizational resilience. The fit indices of the model is as follows: $\chi^2=2660.151$; $df=697$; $p=.000$; $\chi^2/df=3.817$; GFI=.703; CFI=.867; GFI: .703; RMSEA=.095. Table 3 presents the findings.

Table 3. Standardized Direct, Indirect and Total Effects

Variables	β	SE	t	Bootstrap 5000 times 95% CI		p	Total Effect
				Lower Bound	Upper Bound		
LF→OR (H ₁)	.205	.072	4.071	-	-	.003	.323
LF→IC (H ₂)	.189	.097	2.786	-	-	.036	.189
LTC→OR (H ₃)	.282	.082	4.442	-	-	.002	.757
LTC→IC (H ₄)	.762	.056	10.186	-	-	.000	.762
IC→OR (H ₅)	.624	.066	10.865	-	-	.000	.624
LF→IC→OR (H ₆)	.118	.059	-	.011	.241	.032	.323
LTC→IC→OR (H ₇)	.475	.069	-	.354	.629	.000	.757

(Note: LF: Leadership functions; LTC: Leadership team coherence; IC: Initiative climate; OR: Organizational resilience)

Leadership functions significantly predict organizational resilience ($\beta=.205$; $p=.003$) and initiative climate ($\beta=.189$; $p=.036$). Leadership team coherence significantly predicts organizational resilience ($\beta=.282$; $p=.002$) and initiative climate ($\beta=.762$; $p=.000$). On the other hand, initiative climate significantly predicts organizational resilience ($\beta=.624$; $p=.000$). Finally, initiative climate has a mediating role in the relationships between leadership functions and organizational resilience ($\beta=.118$; $p=.032$; 95% CI, LB=.011, UB=.241) and leadership team coherence and organizational resilience ($\beta=.475$; $p=.000$; 95% CI, LB=.354, UB=.629). The findings indicate that this is a complementary mediating role because both direct and indirect effects are significant (Zhao, Lynch & Chen, 2010) (Table 3). On the other hand, the effect sizes for indirect effects were calculated using the formula $ab/(ab+c^2)$ (Miočević, O'Rourke, MacKinnon & Brown, 2018). The findings showed that the effect size of the indirect effect of leadership functions on organizational resilience is .25 and it is .15 for the indirect effect of leadership team coherence on organizational resilience. These findings indicated that effect sizes of the indirect effects were medium level (Cohen, 1988). Figure 1 shows the structural relations between the variables.

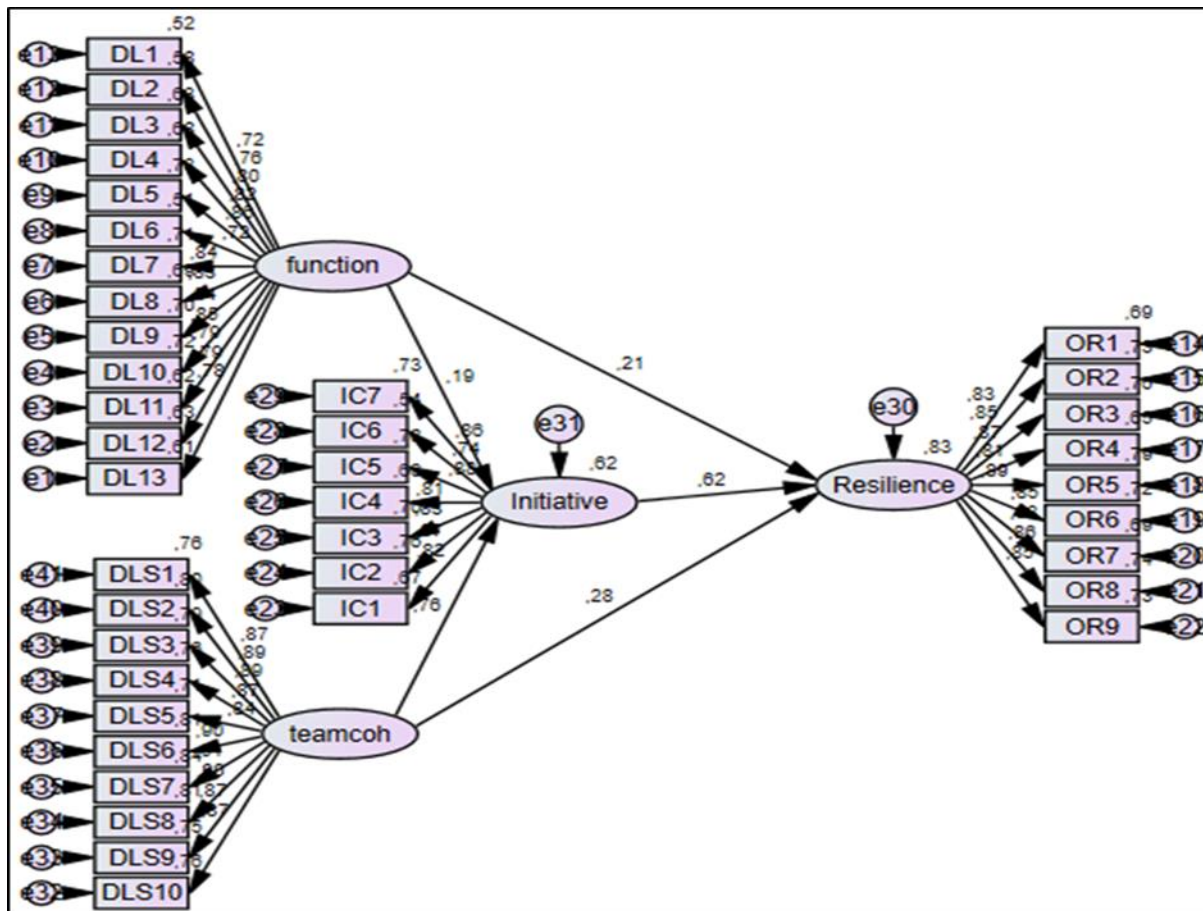


Figure 1. Structural Model

Discussion

This study investigated the mediating role of initiative climate on the relationship between distributed leadership and organizational resilience in schools. First of all, the level of organizational resilience, climate of initiative, and school principals' distributed leadership behaviors were revealed. The first variable was "distributed leadership," a leadership model that has been extensively studied in the field of education (Gümüş et al., 2018). Most participants "agreed" with school principals' distributed leadership behaviors, which is consistent with the previous literature (Arabacı, Karabatak & Polat, 2016; Ertürk & Sezgin-Nartgün, 2019; Korkmaz & Gündüz, 2011; O'Donovan, 2015). This finding has important implications because the primary goal of distributed leadership is to disseminate leadership throughout school staff and ensure that each school stakeholder acts as a leader based on their own expertise. Teachers to whom leadership is distributed are more likely to take more risks, face uncertainty more confidently, and pay more attention to the opinions of others. Distributed leadership also provides a powerful mechanism that paves the way for a positive pedagogical transformation (Clarkin-Phillips, 2009). However, distributed leadership in schools depends on organizational trust, supportive and facilitating management, and collaboration between teachers and administrators.

The second variable dealt with in this study was initiative climate. Initiative is a set of behaviors one displays, such as taking an active approach to achieving work goals and tasks and overcoming obstacles (Fay & Frese, 2001; Frese, 2001; Frese et al., 1997; Frese et al., 1996;). Most participants "agreed" with initiative climate in schools. Korumaz and Tufan (2020) also reported a similar result, whereas Sezgin-Nartgün and Taşkın (2017) reported that teachers neither agreed nor disagreed with a climate of initiative. Frese et al. (1997) and Frese and Fay (2001) found that employees took responsibility and initiative at a moderate level. We think that our result is important in school context because initiative climate increases the performance at both organizational and individual level (Lisbona et al., 2018; Taşkın, 2016). It can be said that this increase in performance significantly contributes to the school's ability to continue its education and training activities effectively, efficiently, and successfully.

The third variable was organizational resilience, which plays a key role, especially in times of change (Andersson et al., 2019; Coutu, 2002; Horne, 1997; Horne & Orr, 1998; Kantur & İşeri-Say, 2015; Linnenluecke, 2017; Somers, 2009). The participants “agreed” with organizational resilience capacity of their schools which is not consistent with previous literature (Sezen-Gültekin, 2019). We think that our result is important because resilience helps organizations face uncertainty (Sutcliffe & Vogus, 2003; Tengblad & Oudhuis, 2018; Vogus & Sutcliffe, 2007) and makes them more agile and robust (Kuntz et al., 2017). Resilience can be said to be the most important basis for today’s organizations in managing the complexity, uncertainty, crises, overcoming pressures and gaining competitive edge (Sezen-Gültekin, 2019). In terms of educational organizations, the importance of organizational resilience becomes even more prominent. Educational organizations operate in an environment which is changing rapidly; so, they face unexpected situations very often. This makes resilience a must for schools. Otherwise, they may have to endure undesirable outcomes.

On the other hand, we suggested that *school principals’ distributed leadership behaviors (leadership functions and leadership team coherence) significantly predict initiative climate*. The findings confirmed that distributed leadership is a significant predictor of initiative climate. This is an important result because organizations with distributed leadership are likely to be more democratic, participatory, creative, and dynamic (Panahi, 2013), which can encourage employees to take more initiative. At least in scope of this study, we could not reach a study analyzing the relationship between distributed leadership and initiative climate. In this sense, it can be said that we contributed distributed leadership literature with a different perspective. However, distributed leadership makes teachers more eager to gain professional knowledge (Bektaş, Kılınç & Gümüş, 2020) and more satisfied with their job (Liu, Bellibaş & Gümüş, 2020; Sun & Xia, 2018; Torres, 2019). It increases organizational commitment (Uslu & Beycioğlu, 2013) and it is positively associated with value-based leadership (Baloğlu, 2012). School principals distributing leadership can foster trust and respect among teachers (Bellibaş & Liu, 2016), encouraging them to take more initiative.

We also suggested that *school principals’ distributed leadership behaviors significantly predict organizational resilience*. The results showed that leadership functions and leadership team coherence predicted organizational resilience. Distributed leadership, an alternative to leader-centered traditional leadership models, assumes that leadership is not a personal but a shared trait (Bolden, Petrov & Gosling, 2008). In other words, one’s performance is not superior to others’ in distributed leadership (Gronn, 2002). Distributed leadership improves organizational resilience, enabling organizations to proactively cope with complex situations and uncertainty (Tengblad & Oudhuis, 2018) because leadership qualities manifest themselves in organizational resilience (Nilakant et al., 2014). When the leadership is distributed, school organizations can exploit the expertise of all shareholders which can contribute to resilience. Because through distribution of leadership an environment in which teachers can work individually and collectively to overcome challenges is created.

Another suggestion of the current study was that *initiative climate significantly predicts organizational resilience*, which was confirmed by the results. Initiative involves standing out among other organizations, anticipating, and solving problems, and seeking ways to draw up long-term plans and execute them (Campos, Frese, Goldstein, Iacovone, Johnson, McKenzie & Mensmann, 2017), making organizations more flexible and agile in the face of uncertainty (Lengnick-Hall et al., 2011). In schools where initiative climate is high, teachers act immediately, and they exert extra effort to deal with crisis situations and challenges which can make schools more resilient.

Finally we suggested that *initiative climate plays a mediating role in the relationship between organizational resilience and school principals’ distributed leadership behaviors*. The results indicate that initiative climate plays a mediating role. In other words, distributed leadership promotes initiative climate which in turn contributes to organizational resilience in schools. Distributed leadership is associated with organizational resilience, which involves standing fast against shocks and coping with adversaries (Vogus & Sutcliffe, 2007). Resilient and agile organizations with risk awareness and collaboration, and improvisation (Andersson et al., 2019) are better at recovering from external shocks (Jung, 2017). School principals interested in increasing organizational resilience should promote distributed leadership and professional development (activities, courses, seminars, etc.). What is more, leaders should be financially supported, and decisions should be jointly made. Creating a climate of initiative, which plays a mediating role between organizational resilience and distributed leadership, is becoming more and more critical in the 21st century (Frese & Fay, 2001) because initiative helps improve in-role performance and resolve organizational conflicts (Fay & Sonnentag, 2002; Fay, Sonnentag & Frese, 1998). Therefore, employees should be rewarded and provided with support, guidance, and time and space to take initiative. It is believed that school principals’ leadership behaviors can improve organizational resilience.

Conclusion and Suggestions

This study aimed to reveal the relationships among principals' distributed leadership, initiative climate and organizational resilience of schools. Our data indicate that distributed leadership has the potential to foster initiative climate and organizational resilience. On the other hand, schools where teachers take initiative can be more resilient. Lastly, our data suggested that distributed leadership has a positive effect on schools' resilience through initiative climate. This study implies that to boost initiative and resilience in schools, principals should assign leadership roles to teachers.

We found that both direct and indirect effects of distributed leadership on organizational resilience are significant indicating complementary mediation as stated above which means the likelihood of omitted mediators in our model (Zhao et. al. 2010). Therefore, future research should be carried out incorporating additional variables in the model both as mediators and moderators. In this way, a better insight into schools' resilience can be provided.

Based on the findings it can be recommended that distributed leadership be the leadership of choice in schools. Moreover, teachers should be encouraged to take more initiative, and successful ones should be rewarded to make schools more resilient.

Limitations

The findings of the study are not without limitations. Firstly, the assessment was based on only teachers' perceptions. Further studies should include other stakeholders' views. Secondly, participants were recruited using convenience sampling, but the study did not aim to generalize its results to a larger population so it could be regarded as a suitable sampling method. This is a cross-sectional study which cannot give cause-effect relationships. Researchers can carry out longitudinal studies to reveal cause-effect relationships among these variables.

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