

# The Moderating Role of Work Overload in the Effect of Transformational Leadership on Individual Innovativeness: A Study on School Administrators

OPEN ACCESS

Manuscript ID:  
EDU-2024-12047879

Volume: 12

Issue: 4

Month: September

Year: 2024

P-ISSN: 2320-2653

E-ISSN: 2582-1334

Received: 30.06.2024

Accepted: 25.08.2024

Published: 01.09.2024

Citation:  
Uygur, Ö., & Yıldırım, A. (2024). The Moderating Role of Work Overload in the Effect of Transformational Leadership on Individual Innovativeness: A Study on School Administrators. *Shanlax International Journal of Education*, 12(4), 93-107.


DOI:  
<https://doi.org/10.34293/education.v12i4.7879>



This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License


**Özgür Uygur**

*Isparta Provincial Directorate of National Education, Turkey*

 <https://orcid.org/0009-0007-4994-5821>

**Ahmet Yıldırım**

*Süleyman Demirel University, Turkey*

 <https://orcid.org/0000-0002-1208-071X>

## Abstract

*This study was conducted to determine the regulatory role of excessive workload in the effect of transformational leadership behaviors of school administrators on individual innovativeness within the educational ecosystem. The data of the study were collected from teachers working in schools in Isparta city center. Within the scope of the research, the data collected with the participation of 1007 teachers using convenience sampling method were subjected to regularization analysis using bootstrap regression analysis. According to the findings, transformational leadership has a positive and significant effect on individual innovativeness. Excessive workload was found to have a negative moderating role in the effect of transformational leadership on individual innovativeness. The findings were discussed in line with the literature and suggestions were made for future studies.*

**Keywords:** Transformational Leadership, Excessive Workload, Innovation, School Administrators, Individual Innovativeness

## Introduction

Today, organizations expect their managers to lead the organization in addition to their managerial attitudes in order to adapt faster to sustainable competition, technological transformation and differentiating environmental conditions. In this context, transforming leaders try to implement change or transformation in their organizations by taking into account the changes in environmental conditions. Under these conditions, educational organizations are transforming into organizations that produce, universalize, store and transfer knowledge, and meet people's expectations in this new ecosystem.

School administrators who are open to innovation play the most important role in terms of school culture and atmosphere in the transformation of the school. In this process, it has become a necessity for school administrators to be people who constantly renew their professional development, ensure the efficient use of resources and search for new things.

[Damanpour \(1987\)](#) defined innovation as 'a means of change in the output, structure or processes of an organization to facilitate adaptation to the environment'. The innovativeness of school administrators actually provides an innovative learning atmosphere by being a role model, supporting others, motivating and establishing an appropriate environment for the introduction of new ideas ([Sarafidou & Xafakos, 2015](#)). One of the predictors of innovative

school climate is the innovativeness of school administrators and it directly and deeply affects innovative school culture and climate. Personal innovativeness of school administrators affects their core leadership behaviors (Davitt, 2008). On the other hand, transformational leadership is seen as one of the factors affecting innovative work behaviors. The innovativeness and creativity characteristics of school administrators are considered to be a very important condition for the transformational leadership process to take place in the school atmosphere (Sarafidou & Xafakos, 2015).

It is the school administrator who is responsible for the effective activities of the institutional system in the school, its harmony with the environment, its continuity, and meeting the increasing expectations and demands from within or outside the organization. Therefore, the workload of school administrators increases both in terms of organizational functioning and environmental expectations.

Due to the expansion of the area of responsibility in the changing educational ecosystem, the increasing expectations of social stakeholders and the new roles assumed by educational organizations, school administrators are faced with excessive workload. It is obvious that school administrators, who are responsible for transferring an education model based on change to generations as well as managing change, should also manage excessive workload in the effect of transformational leadership behaviors on innovation levels. It can be stated that the dynamic nature of the education sector, its stakeholder portfolio, changing environmental conditions and the existence of a constantly updated ecosystem will have a direct impact on school administrators' transformational leadership and personal innovativeness behaviors. In this context, the excessive workload faced by educational administrators will contribute negatively to the relationship between these variables.

In this context, the purpose of this study, which was designed in the relational survey model from descriptive research, is to determine the regulatory role of excessive workload in the effect of transformational leadership levels of school administrators on individual innovation behavior and to reveal the relationship between transformational leadership, innovation and excessive workload.

As a result of the literature review on the moderating role of excessive workload, which is another variable in the study, there is no study examining the moderating role of excessive workload in the effect of transformational leadership on individual innovativeness. Therefore, it is very important to investigate a topic that has not been previously researched in the literature and to share the results, both in terms of the importance of the research and its contribution to the literature and in terms of meeting the need for such a research.

After conducting a literature review on excessive workload as a moderating variable in the study, it was found that there has been no previous research on the effect of transformational leadership on individual innovativeness in relation to excessive workload. Therefore, it is crucial to investigate this topic and share the results to contribute to the literature and meet the need for such research is another variable in the study, there is no study examining the moderating role of excessive workload in the effect of transformational leadership on individual innovativeness. Therefore, it is very important to investigate a topic that has not been previously researched in the literature and to share the results, both in terms of the importance of the research and its contribution to the literature and in terms of meeting the need for such research.

This study is significant because it was conducted with school administrators who play a crucial role in the society. The research aims to determine the impact of excessive workload on the individual innovativeness of school administrators' transformational leadership skills. This perspective will help in evaluating the effectiveness of educational organizations in the educational ecosystem. The findings of the study are expected to contribute to the criteria to be considered in the selection, development, and training of educational administrators. Therefore, the study is believed to be beneficial for both researchers and policymakers alike.

### **Conceptual and Theoretical Framework**

In today's world, change has become a complex phenomenon that deeply affects the cultures and management styles of all societies. This is due to

the rapid increase in information, development, and communication. The concept of 'leadership' plays a vital role in managing and sustaining this change process. Leadership is no longer limited to the processes of influencing people and mobilizing the structure. Today, leadership involves utilizing the knowledge, skills, and abilities of individuals as the most valuable resource. This has made the role of the leader much more complex than the simple leader-follower relationship of the past. The leader is no longer just 'the person who creates ideas' and the follower is no longer just 'the person who does the job'. The new understanding of leadership in this context is Transformational Leadership. This is because the knowledge, skills, and abilities of humanity today, the way of understanding and perceiving management, and the tendency to see success as a necessity have made it essential to structure a new understanding of leadership.

The concept of transformational leadership, introduced by political scientist James McGregor Burns in 1978, was first used during political leadership training in the USA. According to Burns, transformational leaders emphasize positive and ethical values such as freedom, development, tranquillity, equality, justice and peace instead of leaving negative impressions to influence their followers. Transformational leadership theory is about leadership that creates positive change in followers so that they look out for each other's interests and act in the interests of the group as a whole ([Warrilow, 2012](#)).

According to Burns, the transforming leader recognizes and exploits the needs and desires of potential followers. But beyond that, transformational leaders seek potential motivators in followers, strive to meet higher level needs, and care for all followers. The relationship of mutual stimulation and elevation that can transform followers into leaders or leaders into moral agents is a result of transformational leadership ([Burns, 1978](#)). In other words, a transformational leader is someone who encourages and inspires (transforms) followers ([Robbins & Coulter, 2007](#)).

For organizations trying to survive in the competitive conditions due to globalization, creating a suitable environment for innovative thoughts

and actions is as much a means of success as putting forward innovative thoughts and actions. Transformational leaders have a great share in this success. According to Avolio, transformational leaders have a positive impact on employees by making them more aware of their duties and the work and operations required by this, and that high motivation and good performance are very effective in achieving organizational goals ([Bass, 1997](#)).

The changes in the education system have greatly impacted the way schools are managed. The management of education in the modern era consists of new structural and factual components that go beyond traditional management approaches. Schools, which are responsible for implementing the education system and transforming educational goals into concrete human behavior, are directly affected by this new management paradigm. The traditional approach of school management, which consists of managing the school organization in a hierarchical manner from a classical perspective, is now outdated. The contemporary school management approach sees school organizations as both the subject and implementer of transformation. Educational administrators are now expected to predict and prepare for future events, create and initiate innovations and develop new ideas. The contemporary educational management paradigm views schools as 'transforming organizations' and educational administrators as 'transformational leaders'. Therefore, school administrators are expected to be open to innovations and constantly renew themselves. Research shows that the new roles of school administrators are largely in line with transformational leadership characteristics.

The changing missions of schools, social dynamics, needs, expectations, and restructuring efforts have transformed schools from being places where only teaching is done, and school administrators have evolved from an instructional leadership role to a transformational leadership role. [Leithwood \(1992\)](#), who defines transformational leadership as leadership that facilitates the restructuring of systems to achieve goals, argues that transformational leadership is particularly relevant to the existing educational climate of the school, which is characterized by change and includes the concept

of instructional leadership to address the fundamental shortcomings of instructional leadership.

Wenner and Campbell (2017), while drawing attention to the challenges in educational practice, emphasized that the school administrator should be a change agent by not only managing but also innovating the school by looking at the qualities of the groups with which they have to work. Educational organizations are affected by social transformations very quickly and therefore need to be restructured. Education acts as a dynamic system by feeding on innovations through original practices. Those who contribute to the educational process to embed innovations are therefore the innovators.

Innovation refers to the application of new methods in business. Innovativeness, on the other hand, is defined as the adaptability of the intellectual product created during the creativity process to the current environment. It represents a change in the present situation, the discovery of something entirely new, and the attempt to improve an existing product or service. Alternatively, it can be understood as the process of proposing new ideas. Innovativeness is influenced by the reactions and adoptions shown based on the acceptance or rejection of changes and innovations. It has been classified into various categories in the literature according to its degrees, fields, characteristics, techniques, levels, and processes.

In the related literature, the concept of 'individual innovativeness' was used by Midgley and Dowling (1978). Individual innovativeness is defined as developing, adopting and implementing an innovation (Yuan & Woodman, 2010). Rogers (1995) made the concept of 'individual innovativeness' understandable by developing a standard bell curve (see Figure 1) showing the categorization of innovation adopters. In this curve, Rogers (1995) includes traditionalists who are individuals who resist or reject innovation at 16%, innovation adopters as sceptics (sceptical and cautious) at 34%, questioners who adopt innovation (not as effective as pioneers, but more conscious) with 34%, the category of pioneers to adopt a new idea (opinion leaders influencers) with 13.5% and innovators who adopt an innovation (risk takers) with 2.5%.

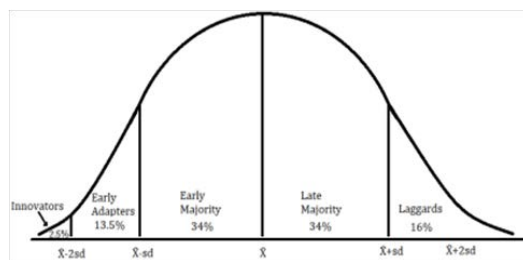


Figure 1 Classification of Innovation Adopters (Rogers, 1995)

The future is predicted to be a time of transformation, which means that leaders who are able to drive change will be more successful than those who simply try to keep up with it. Transformational leadership is the kind of leadership that focuses on the future, innovation, change, and reform. It responds to the need for change in today's organizations. Innovation is one of the most important tools for gaining a competitive advantage. Individual creativity and innovation are essential components of the innovation process, which starts with individuals generating ideas and ends with those ideas being realized. Therefore, individuals play a critical role in an organization's ability to innovate, and individual motivation is a key to encouraging participation in innovation activities.

Transformational leaders possess a strong drive to innovate as innovation is an inherent trait for them. They often seek out managers who can enhance business processes with the use of newer technologies. Innovators are frequently more ambitious, possess a good understanding of technology, and hold higher positions in their organizations, enabling them to efficiently carry out their work (Joseph, 2015). In the implementation of change within an organization, the characteristics of transformational leadership, such as building morale and establishing a shared vision of the future, are the key factors that enable successful change management (Karip, 1998).

Watt (2002) argues that schools move forward because of their leaders; innovation occurs because of managers who have an entrepreneurial spirit, encourage learning and try to develop different methods. These types of schools are able to create a unique and clear vision of the future thanks to these leaders. Therefore, it is possible to say that transformational leaders also individually innovative.

The innovativeness of school administrators has a significant impact on their leadership behaviors (Davitt, 2008). It is one of the most effective predictors of innovative school climate, and it deeply influences the culture and atmosphere of the school. The creativity and innovativeness of school administrators are crucial for a transformational leadership process to take place in the school climate (Sarafidou & Xafakos, 2015). Additionally, there is a positive and significant relationship between school administrators' lifelong learning tendencies and their individual innovativeness levels (Yılmaz & Beşkaya, 2018).

In the literature, there are studies on transformational leadership with different variables. Ngang (2011) found that there is a significant relationship between transformational leadership behaviours and school culture formation. Allen et al. (2015) stated that there is a significant relationship between transformational leadership perception and school climate, and Gümüşlüoğlu and Ilsev (2009) stated that transformational leadership has a positive effect on creativity at both individual and organizational levels.

On the other hand, studies on individual innovativeness have been conducted with different variables. Pratoon and Savatsomboon (2012) found that constructive organizational culture and knowledge management are the antecedents of individual innovation behavior, Rutherford and Holt (2007) and Gilson (2002) found that managers' supportive behaviors towards their employees and fair reward system positively affect individual innovation scores, Aulawi et al. (2009) found that employees' knowledge sharing behavior has a positive effect on individual innovation behavior.

Besides, de Jong and Den Hartog (2007) found that there is a positive relationship between leadership behaviors and innovative thinking and practices. Li and Zheng (2014) found that leader behaviors have a significant effect on individual innovative behavior, Scott and Bruce (1994) found that leadership behaviors affect innovative behaviors, and Zahra and Waheed (2017) found that ethical leadership perception is a positive and significant predictor of individual innovative behavior.

In the literature, it is possible to come across studies that reveal that transformational leadership is an antecedent of innovativeness. As a matter of fact, Vaccaro et al. (2012) found that transformational leadership style affects the perception of managerial innovativeness, Eisenbeiss et al. (2008) found that transformational leadership behavior reinforces the perspective of innovativeness and interacts positively, and Pieterse et al. (2010) found that transformational leadership behavior supports innovative behaviors. Jung et al. (2003) and Sarros et al. (2008) state that transformational leadership increases organizational innovativeness and has a positive effect on creating an organizational climate that reinforces innovative behaviors. Reuvers et al. (2008) state that transformational leadership increases innovative work behaviors, but gender is also a determining factor, Garcia Morales et al. (2008) state that transformational leadership behaviors support the transition of the business to a learning organization structure and increase the innovation level and performance of the business. Sentürk et al. (2016) found that transformational leadership behaviors have a positive and significant effect on individual innovativeness, and that the individual innovativeness behaviors of the employees who perceive the transformational behavior of the leaders at a high level positively also increase. Akgün and Saribudak (2023) found a positive relationship between transformational leadership and innovativeness in their study.

Hardman (2011) found that the mental stimulation sub-dimension of transformational leadership was significantly related to student achievement in school improvement and development in the context of innovation culture.

In this context, the first hypothesis of the study is formulated as follows:

*H1: Transformational Leadership has a positive and significant effect on individual innovativeness behavior.*

Transformational leaders aim to achieve more than expected results by unleashing employees' talents and skills from the perspective of innovation and self-normally. The model is based on the idea that a transformational leader motivates employees to achieve performance results that exceed their commitment and expectations. However, the



increasing and complex workload that school administrators have to manage in schools linearly affects them and makes it difficult for them to realize their goals.

Workload, which is one of the basic elements of business life, can be expressed as the amount of work that an individual must fulfill at a certain standard within a certain period of time in relation to his/her organizational role (Maslach & Leiter, 1997). Workload, which is all the work that the individual is assigned to do in the organization, is also defined as the amount of work that falls on the individual according to the working time (Qureshi et al., 2013; Baltaci, 2017). Excessive workload, in general terms, is the individual's perception that the work is more than normal as a requirement of the role assigned to him/her by the organization (Keser, 2006).

Excessive workload is defined as the excessive roles of the employees in the organization, fulfilling jobs that strain their capacity and are physically and mentally exhausting (Greenhaus et al., 1989). Excessive workload can also be defined as the excessive number of roles that employees are assigned within the organization and the fulfillment of physically and mentally exhausting tasks that strain their capacity (Greenhaus et al., 1989). In the literature, work overload is evaluated in two different ways: qualitative and quantitative. Qualitatively, workload explains the relationship between the abilities of the individual and the requirements of the job. When the requirements of the job are higher than the abilities of the individual, the workload will be heavy. Quantitatively, workload explains the relationship between the work to be done and the time deemed appropriate for the completion of this work. If this time is less, the workload will be heavy; if it is more, the workload will be light (Cam, 2011).

Brown et al. (2005) state in their study that excessive workload prevents positive organizational behaviors such as job performance, self-efficacy and resilience. Hancock and Verwey (1997) and Dorrian et al. (2011) found that excessive workload weakens employees physically and causes fatigue. Workload is the tasks that an individual performs in order to achieve a gain within the specified working time. It is one of the expected results that as the amount, difficulty and complexity of the tasks performed

by the individual increases, the workload increases accordingly (Çakıcı et al., 2013).

Schools in the education system have turned into organizational structures that are constantly changing in order to increase the quality of education in line with the knowledge, skills and attitudes required by the time, to respond to the demands and needs of the students, who are the inputs of the system, and to increase the academic competencies of the students (Güzel et al., 2020). In this context, the excessive workload of schools in the field of work has been the subject of various studies (Adebayo, 2006; Timms et al., 2007). There are studies on the fact that excessive workload faced by school administrators creates pressure, leads to some negativities (Klassen et al., 2013; Kuntz et al., 2011). However, there are also studies emphasizing that excessive workload contributes to principals' individual and organizational performance (Mazur et al., 2016; Oron-Gilad et al., 2008). In the existing research, a limited number of studies have examined the moderating effect of excessive workload.

In this context, examining excessive workload that can play a regulatory role in the relationship between transformational leadership and individual innovativeness behaviour will contribute to a better understanding of relationship between transformational leadership, individual innovativeness behaviour of school administrators. For this reason, excessive workload was considered as a moderating variable in this study. It is assumed that the effects of transformational leadership characteristics of school administrators on innovativeness behaviour will be negatively affected depending on level of excessive workload due to different types of job descriptions.

In today's educational ecosystem, as school administrators have a very wide job description, their workload increases while their area of responsibility expands, and they cannot exhibit transformational leadership and innovation behaviours expected from school administrators who are under pressure due to excessive workload. In this context, excessive workload reduces job performance and negatively affects organizational commitment and innovation (Bowling & Kirkendall, 2012).

Employees exposed to excessive workload often feel stressed, which can negatively affect

their innovation and creativity performance. In addition, it is likely that people who are constantly under intense work tempo will lose motivation. Therefore, it can be thought that the positive effect of transformational leadership on individual innovation behavior may also decrease or be modified due to the regulatory role of excessive workload. In this case, it is important to provide an appropriate workload in addition to transformational leaders in order to support employees' innovation and creativity.

For these reasons, it is thought that excessive workload will have a moderating effect on the relationship between transformational leadership and individual innovativeness behavior. In other words, it is expected that excessive workload will reduce the effect size of transformational leadership on innovativeness behavior. The hypothesis formed in this context is stated below.

*H2. Transformational leadership has a moderating role in the effect of excessive workload on individual innovativeness behavior.*

### Methodology of the Research

In this chapter, the purpose and model of the study, the population and sample of the study, and the scales used in the study will be explained.

### Purpose and Model of the Research

The main purpose of this study is to determine the moderating role of excessive workload in the effect of transformational leadership of school principals on innovation behavior. The study model created for this purpose is shown in Figure 2,



**Figure 2 Research Model**

It is aimed to test the hypotheses based on the theoretical framework within the research model's scope.

### Population and Sample of the Research

The study consisted of 1007 teachers who work in public schools in Isparta province. The researchers obtained the necessary permissions from relevant institutions to conduct the survey. Then, using the

convenience sampling method, they reached out to 1007 education employees and asked them to fill out the questionnaires on a digital platform. As a result, the obtained data set is highly representative of the population.

Convenience sampling is often preferred in cases where it is not possible to reach the entirety of a large and homogeneous population due to time and cost constraints. Convenience sampling was preferred because the research universe consisted of 6347 teachers, the population was homogeneous, and it was suitable for the purpose of the research.

### Data Collection Technique and Scales

The research was conducted through a questionnaire that comprised four different sections. The first section contained 11 questions that aimed to gather information related to the demographic characteristics of the participants. The other three sections of the questionnaire included various scales, and more detailed information about these scales is provided below.

In the study, the Multi-factor Leadership Questionnaire (MLQ-5X) short form developed by Avolio and Bass was used as the independent variable. This questionnaire has a total of 45 items, with 20 items measuring transformational leadership, 16 items measuring transactional leadership, and 9 items assessing the outcomes of leadership behaviors. The study included a twenty-item transformational leadership scale, comprising sub-dimensions such as idealized influence, inspirational motivation, intellectual stimulation, and personal attention.

In the study, individual innovativeness levels of school administrators were measured with a 19-item questionnaire adapted to Turkish by Kaymak et al. The scale has a 5-point Likert-type rating as 1: strongly disagree and 5: strongly agree. Cronbach  $\alpha$  internal consistency coefficient of the scale was calculated as .92. There are no reverse-scored items in the scale.

The study utilized the excessive workload scale developed by Peterson et al. and adapted into Turkish by Derya. This scale comprises 11 items and one dimension, and uses a 5-point Likert-type scale ranging from 1: strongly disagree to 5: strongly agree. A high score on the scale indicates a greater

presence of excessive workload. The scale has an internal consistency coefficient of 0.86, and there is one statement in the scale that is reverse-scored.

**Statistical Methods Used in the Study**

Jamovi 2.4.1 program was used to analyze the research data. The validity of the scales was tested with the help of confirmatory factor analysis. An internal consistency coefficient was preferred to measure the reliability of the scales. Correlation and regression analysis were used to test the relationships and effects between the variables used in the study. To reveal the regulatory role of excessive workload, regression analysis was performed using the Jamovi Bootstrap plug-in. Regression analysis can be preferred to understand the relationship between dependent and independent variables, to make predictions or to examine causal relationships. The results obtained by examining the factor loadings and correlations of the research variables were decided to be suitable for regression analysis. On the other hand, it has been observed in the literature that regression analysis is mostly performed for the moderator effect in the relationship between variables (Bagozzi & Yi, 1988). Regression analysis is one of the first generation data analysis techniques that basically reveals how much of the change in the dependent variable is explained by the independent variables.

**Findings**

The research findings are evaluated under the following headings.

**Demographic Findings**

The demographic characteristics of the teachers who participated in the study are given in Table 1.

From the Table 1, 51.6% of the participating teachers were female, which is similar to the gender

distribution of teachers in the Ministry of National Education. According to the Ministry’s statistics for 2023, 59% of its employees are women. Among the participant teachers, 58.5% hold the title of Expert Teacher, which requires 10 years of teaching experience, completion of a 180-hour Expert Teacher Training Program, and passing the Teaching Career Steps Written Examination. Of these teachers, 80.5% hold a bachelor’s degree while 17.9% have a postgraduate degree, indicating a tendency toward self-improvement. The participants’ average age ranged from 33 to 45 years, and their length of service ranged from 11 to 21 years.

**Table 1 Demographic Data of the Participants**

	Variable	Number	%
Gender	Female	520	51.6
	Male	487	48.4
Title	Candidate Teacher	15	1.5
	Teacher	312	31.0
	Expert Teacher	589	58.5
	Head Teacher	91	9.0
Education Level	Associate Degree	16	1.6
	Undergraduate	811	80.5
	Graduate	180	17.9
Seniority	0-10 Years	263	26.1
	11-21 Years	411	40.8
	22 Years and over	333	33.1
Age	20-32	121	12.0
	33-45	552	54.8
	46 and over	334	33.2

**Validity and Reliability Analyses of the Scales**

The study used confirmatory factor analysis to check the accuracy of the scales used. Additionally, internal consistency coefficients were reviewed to evaluate the reliability of the scales. You can find the results for construct validity in Table 2.

**Table 2 Goodness of Fit Values of the Scales**

Variable	#	$\chi^2$ /df	CFI	GFI	TLI	SRMR	RMSEA
Transformational Leadership	20	$\leq 3.8$	>.97	>.92	> .97	<.05	<.06
Individual Innovativeness	19	$\leq 4.8$	>.96	>.94	>.95	<.06	<.07
Excessive Workload	11	$\leq 4.0$	>.94	>.86	> .91	<.04	<.07
Acceptable Fit *		$\leq 5$	>.90	>.85	> .90	<.08	<.08
Good Fit *		$\leq 3$	>.97	>.90	> .95	<.05	<.05

\*Joreskog and Sörbom (1993); Kline, (1998); Anderson and Gerbing, (1984)



As part of the Validity and Reliability Analyses, the goodness of fit values for three scales were examined. The analysis revealed that all three scales fit well. The Excessive Workload scale retained its one-factor structure from its original study, while the Individual Innovativeness Scale retained its two-factor structure. Similarly, in this study, the Transformational Leadership Scale retained its 4-dimensional structure.

**Table 3 Internal Consistency Coefficients of the Scales**

Variable	Item Number	$\alpha$
Transformational Leadership	20	0,981
Individual Innovativeness	19	0,91
Excessive Workload	11	0,88

**Table 4 Descriptive Statistics and Relationships between Variables**

Variables	S./K.	Mean	S.D.	1	2	3
Individual Innovativeness	-.958/.246	3.22	.667	-		
Excessive Workload	.429/-.146	2.61	.810	.271***	-	
Transformational Leadership	-.914/.493	3.58	.966	.437***	.048***	-

The data analysis revealed that the skewness and kurtosis coefficients of the variables fell within the acceptable range of  $\pm 1$  for a normal distribution. According to the recommended guidelines, if the kurtosis coefficient is between -1 and 1, it is considered acceptable for the skewness coefficient to fall between -2 and 2 (George & Mallery, 2001; Leech et al., 2005). Based on these findings, parametric analysis techniques were used in the study. Based on the analysis results, it has been determined that the participants in the study have a high level of intention towards individual innovativeness ( $3.22 \pm .667$ ). Furthermore, the participants have evaluated the level of transformational leadership of school administrators to be high ( $3.58 \pm .966$ ). As for the perceived workload levels of education employees participating in the study about school administrators, they are below the midpoint of 3

The results of the reliability analysis of the scales are given in Table 3. When the results of the scales used within the scope of the research purpose are examined in Table 3, it is determined that the internal consistency coefficients are above .70, which is generally accepted in the literature. According to this result, it was evaluated that all three measurement tools used were highly reliable (Nunnally, 1978).

**Findings Related to Relationships between Variables**

The study used Pearson correlation analysis to determine the relationships between the variables. Table 4 displays the arithmetic mean, standard deviation, and skewness/kurtosis values of the variables.

( $2.61 \pm .810$ ). This indicates that the participants do not consider the workload of the school administrators to be excessive, even at a level that can be considered low. (Table 4)

Based on the results of correlation analysis, all variables show significant relationships with each other. The analysis indicates that there exists a significant positive correlation between individual innovativeness and work overload ( $r=.271***$ ,  $p<.01$ ) as well as between individual innovativeness and transformational leadership ( $r=.437$ ,  $p<.01$ ). However, there is only a significant positive correlation between transformational leadership and work overload ( $r=.048$ ,  $p<.05$ ). (Table 4)

**Findings Related to Hypothesis Testing**

The research model's hypotheses were tested using regression analysis.

**Table 5 Results of Hypothesis Test Analysis**

	Estimate	S. E.	% 95 Confidence Interval		Z	p
			Lower	Upper		
Transformational Leadership	.278	.026	.227	.330	10.6	<.001
Excessive Workload	.196	.027	.143	.248	7.03	<.001
Transformational Leadership *Excessive Workload	-.107	.036	-.182	-.035	-2.94	<.001

Based on the findings of the analysis, it can be concluded that the independent variable of the study, transformational leadership, has a positive impact on the dependent variable, individual innovativeness (Est.: .278;  $p < .001$ ) and the moderator variable, excessive workload (Est.: .196;  $p < .001$ ). Therefore,

Hypothesis H1 is supported. Furthermore, it was observed that excessive workload played a moderating role in the relationship between transformational leadership and individual innovativeness (Est.: -.107;  $p < .001$ ), thereby confirming Hypothesis H2.

**Table 6 Moderator Effect Analysis**

	Estimate	S. E.	% 95 Confidence Interval		Z	p
			Lower	Upper		
Average	.278	.026	.228	.332	10.63	<.001
Low (-1SD)	.365	.033	.295	.431	10.82	<.001
High (+1SD)	.191	.043	.107	.275	4.36	<.001

The findings of slope analysis are presented in Table 6 and visually summarized in Figure 3. Based on the results, it has been observed that the moderating effect is significant when work overload is at medium (Est.: .278;  $p < .001$ ), low (Est.: .365;  $p < .001$ ), and high (Est.: .191;  $p < .001$ ) levels. This indicates that an increase in work overload decreases the impact of transformational leadership on individual innovativeness.



**Figure 3 Graphical Representation of Regulatory Variable Effects**

Based on the analysis of the impact of excessive workload on the influence of transformational leadership on individual innovativeness, the simple slope estimates of the moderation test showed statistical significance in three groups. The first group, which had an average workload, had a slope estimate of  $b=0.28$  and a standard error of  $s.h.=0.03$ . The low workload group, which had a workload below 1 standard deviation, had a slope estimate of  $b=0.37$  and a standard error of  $s.h.=0.03$ . The high workload group, which had a workload above 1 standard deviation, had a slope estimate of  $b=0.19$  and a standard error of  $s.h.=0.046$ . A slope plot illustrates the significance of these findings.

Figure 3 shows that excessive workload moderates the negative effect of transformational leadership on individual innovativeness.

### Conclusion

This study aimed to investigate the impact of school administrators' transformational leadership skills on individual innovativeness behavior while considering the influence of excessive workload. The most obvious limitation is that the research was conducted at the level of education workers and geographically within the borders of a province. The research should be expanded to take into account different sectors and geographical regions in the future.

According to the results of the study, transformational leadership has a positive and significant effect on individual innovativeness. This finding is in line with the theoretical basis and the results of empirical studies conducted by [Pieterse et al. \(2010\)](#), [Vaccaro et al. \(2012\)](#), [Eisenbeiss et al. \(2008\)](#), [Jung et al. \(2003\)](#), [Sarros et al. \(2008\)](#), [Garcia Morales et al. \(2008\)](#), [Şentürk et al. \(2016\)](#), [Akgün and Sarbudak \(2023\)](#).

It can be argued that all the qualities of transformational leadership of school administrators have a positive impact on individual innovativeness. This means that school administrators who are themselves innovative possess characteristics such as inspirational motivation, ideal influence, idea leadership, and mental stimulation. Therefore, it can be inferred that if school administrators exhibit innovative behaviors as transformational leaders, it will greatly benefit the school.

As a result of the study, the regulatory role of excessive workload in the effect of transformational leadership on individual innovativeness was determined. This result can be considered as an important contribution to the literature. Especially in the literature, there is a limited number of studies on the moderating role of excessive workload in the relationship with different variables. On the other hand, the excessive workload has been examined with different variables such as turnover intention (Pradana & Salehudin, 2013; Pienaar et al., 2007). Although there are no empirical studies that take into account the regulatory role of excessive workload in the effect of transformational leadership on individual innovativeness, which are the variables of the study, effect of 'excessive workload' has been examined with the 'resource conservation model' (Demerouti et al., 2001), which confirms the assumptions of the Workload-Control Theory by Karasek (1979).

The relationship between transformational leadership and individual innovativeness is affected by the workload level of school administrators. As the behaviour of transformational leadership increases, the tendency of school administrators towards individual innovativeness also increases. However, it's worth noting that increasing workload under intense tempo has a negative regulatory effect on this relationship.

It has been observed that the level of individual innovativeness among teachers is positively influenced by the transformational leadership qualities of school administrators. Therefore, it is essential to provide opportunities for school administrators to develop these important characteristics. To achieve this, administrator training programs should include both these topics. Furthermore, it is important to encourage school administrators who take risks and promote innovation in their schools. They should be rewarded for their initiatives and allowed to develop the schools they manage.

According to these results, it can be suggested that practitioners should make plans for developing transformational leadership skills of school administrators and supporting individual innovation initiatives by taking into account these characteristics of schools, which are among the organizations most affected by external factors.

It's important to establish a management approach and organizational policies that prevent school administrators from being overloaded with too many similar tasks. If the workload is managed effectively, it can positively impact the transformational leadership and individual innovation skills of school administrators. Workload distribution should be fair and balanced, while also considering job requirements. Additionally, HR policies related to performance evaluation and reward management should be developed for school administrators. Training and development activities should also be provided to reduce the perception of excessive workload, with the aim of equipping administrators with the knowledge, skills, and experience required to effectively carry out their assigned tasks.

The study has several limitations. Firstly, the data collected was from a limited number of teachers in a specific geographical area and a cross-sectional analysis was conducted. To generalize the results of the study, it is recommended to repeat the research by increasing the sample size. Secondly, the study only focused on transformational leadership skills, despite the fact that there are several managerial, organizational, and personal variables that can affect the innovativeness levels of school principals.

It is recommended that similar studies be repeated in different regions in the future, examined in depth with qualitative research methods, and different variables be included in the research process.

## References

- Adebayo, D. O. (2006). Workload, social support, and work-school conflict among Nigerian nontraditional students. *Journal of Career Development, 33*(2), 125-141.
- Akgün, N., & Sarıbudak, D. (2023). The relationship between school administrators' perceived transformational leadership behaviors and individual innovation levels. *Bolu Abant İzzet Baysal University Journal of Faculty of Education, 23*(1), 495-519.
- Alan, H., & Yeloğlu, O. (2013). Branding and innovativeness. *Economic Innovation Journal, 1*(1), 13-26.
- Allen, N., Grigsby, B., & Peters, M. L. (2015). Does leadership matter? Examining the relationship

- among transformational leadership, school climate, and student achievement. *International Journal of Educational Leadership Preparation*, 10(2), 1-22.
- Anderson, J. C., & Gerbing, D. W. (1984). The effect of sampling error on convergence, improper solutions, and goodness-of-fit indices for maximum likelihood confirmatory factor analysis. *Psychometrika*, 49(2), 155-173.
- Aulawi, H., Sudirman, I., Suryadi, K., & Govindaraju, R. (2009). Knowledge sharing behavior, antecedent and their impact on the individual innovation capability. *Journal of Applied Sciences Research*, 5(12), 2238-2246.
- Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16, 74-94.
- Baltacı, A. (2017). The relationship between workload and performance: An empirical investigation. *Ağrı İbrahim Çeçen University Social Sciences Institute Journal*, 3(1), 101-121.
- Bass, B. M. (1997). Personal selling and transactional/transformational leadership. *Journal of Personal Selling and Sales Management*, 17(3), 19-28.
- Bowling, N. A., & Kirkendall, C. (2012). Workload: A review of potential causes, consequences, and interventions. In J. Houdmont, S. Leka, & R. Sinclair (Eds.), *Contemporary Occupational Health Psychology: Global Perspectives on Research and Practice* (pp. 221-238). Wiley-Blackwell.
- Brown, S. P., Jones, E., & Leigh, T. W. (2005). The attenuating effect of role overload on relationships linking self-efficacy and goal level to work performance. *Journal of Applied Psychology*, 90(5), 972-979.
- Burns, J. M. (1978). *Leadership*. New York: HarperCollins.
- Çakıcı, A., Özkan, C., & Akyüz, B. H. (2013). A research on the impact of workload on job and life satisfaction in automotive industry. *Cag University Journal of Social Sciences*, 10(2).
- Cam, E. (2011). Stress in working life and women employees in public sector. *International Journal of Human Sciences*, 8(1), 1-10.
- Damanpour, F. (1987). The adoption of technological, administrative, and ancillary innovations: Impact of organizational factors. *Journal of Management*, 13(4), 675-688.
- Davitt, S. J. (2008). *An Exploratory Study of Principal Innovativeness and Leadership Behavior*. University of Oregon.
- de Jong, J. P. J., & Den Hartog, D. N. (2007). How leaders influence employees' innovative behaviour. *European Journal of Innovation Management*, 10(1), 41-64.
- Demerouti, E., Bakker, A., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86(3), 499-512.
- Dorrian, J., Baulk, S. D., & Dawson, D. (2011). Work hours, workload, sleep and fatigue in Australian Rail Industry employees. *Applied Ergonomics*, 42(2), 202-209.
- Eisenbeiss, S. A., van Knippenberg, D., & Boerner, S. (2008). Transformational leadership and team innovation: Integrating team climate principles. *Journal of Applied Psychology*, 93(6), 1438-1446.
- Garcia-Morales, V. J., Lloréns-Montes, F. J., & Verdu-Jover, A. J. (2008). The effects of transformational leadership on organizational performance through knowledge and innovation. *British Journal of Management*, 19(4), 299-319.
- George, D., & Mallery, P. (2001). *SPSS for Windows Step by Step: A Simple Guide and Reference*. Allyn and Bacon.
- Gilson, R. L. (2002). *Bridging the Gap between Individual Innovativeness and Group Innovation: An Investigation of the Innovation Process in Work Groups*. The University of Nebraska.
- Greenhaus, J. H., Parasuraman, S., Granrose, C. S., Rabinowitz, S., & Beutell, N. J. (1989). Sources of work-family conflict among two career couples. *Journal of Vocational Behaviour*, 34(2), 133-153.
- Gumusluoglu, L., & Ilsev, A. (2009). Transformational leadership, creativity, and organizational innovation. *Journal of Business Research*, 62(4), 461-473.

- Güzel, S., Arslan, M., & Aytekin, S. (2020). Inspection practices in the context of school improvement: Sample of OFSTED. *National Education Journal*, 49(226), 5-34.
- Hancock, P. A., & Verwey, W. (1997). Fatigue, workload and adaptive driver systems. *Accident Analysis and Prevention*, 29, 495-506.
- Hardman, B. K. (2011). *Teacher's Perception of their Principal's Leadership Style and the Effects on Student Achievement in Improving and Non-Improving Schools*. University of South Florida.
- Joreskog, K., & Sorbom, D. (1993). *LISREL 8: Structural Equation Modeling with the SIMPLIS Command Language*. Scientific Software International.
- Joseph, J. (2015). A values-based approach to transformational leadership in the South Pacific. *Community Development*, 46(1), 2-13.
- Jung, D. I., Chow, C., & Wu, A. (2003). The role of transformational leadership in enhancing organizational innovation: Hypotheses and some preliminary findings. *The Leadership Quarterly*, 14(4), 525-544.
- Karasek, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly*, 24(2), 285-308.
- Karip, E. (1998). Transformational leadership. *Educational Administration: Theory and Practice*, (16), 443-465.
- Keng, C. J., Liao, T. H., & Yang, Y. I. (2013). The effects of sequential combinations of virtual experience, direct experience, and indirect experience: The moderating roles of need for touch and product involvement. *Electronic Commerce Research*, 12(2), 177-199.
- Keser, A. (2006). Investigation of the relationship between workload level and job satisfaction in call center employees. *Kocaeli University Journal of Social Sciences*, (11), 100-119.
- Klassen, R., Wilson, E., Siu, A. F., Hannok, W., Wong, M. W., Wongsri, N., ... & Janssem, A. (2013). Preservice teachers' work stress, self-efficacy, and occupational commitment in four countries. *European Journal of Psychology of Education*, 28(4), 1289-1309.
- Kline, R. B. (1998). *Principles and Practice of Structural Equation Modeling*. New York: Guilford Publications.
- Kuntz, L., Mennicken, R., & Scholtes, S. (2011). Stress on the ward - An empirical study of the nonlinear relationship between organizational workload and service quality. *Ruhr Economic Papers No. 277*.
- Kılıçer, K. (2011). *Individual Innovativeness Profiles of Prospective Teachers in Computer Education and Instructional Technology*. Anadolu University.
- Leech, N. L., Barrett, K. C., & Morgan, G. A. (2005). *SPSS for Intermediate Statistics: Use and Interpretation*. Taylor & Francis.
- Leithwood, K. (1992). The move toward transformational leadership. *Educational Leadership*, 49(5), 8-12.
- Li, X., & Zheng, Y. (2014). The influential factors of employees' innovative behavior and the management advices. *Journal of Service Science and Management*, (7), 446-450.
- Maslach, C., & Leiter, M. P. (1997). *The Truth about Burnout*. San Francisco: Jossey-Bass
- Mazur, L. M., Mosaly, P. R., Moore, C., Comitz, E., Yu, F., Falchook, A. D., ... & Marks, L. B. (2016). Toward a better understanding of task demands, workload, and performance during physician-computer interactions. *Journal of the American Medical Informatics Association*, 23(6), 1113-1120.
- Midgley, D. F., & Dowling, G. R. (1978). Innovativeness: The concept and its measurement. *Journal of Consumer Research*, 4(4), 229-242.
- Ngang, T. K. (2011). The effect of transformational leadership on school culture in male' primary schools Maldives. *Procedia Social and Behavioral Sciences*, (30), 2575-2580.
- Nunnally, J. C. (1978). *Psychometric Theory*. New York: McGraw-Hill
- Oke, A., Munshi, N., & Walumbwa, F. O. (2009). The influence of leadership on innovation processes and activities. *Organizational Dynamics*, 38(1), 64-72.



- Oliver, S. (2006). Leadership in health care. *Musculoskeletal Care*, 4(1), 38-47.
- Oron-Gilad, T., Szalma, J. L., Stafford, S. C., & Hancock, P. A. (2008). The workload and performance relationship in the real world: A study of police officers in a field shooting exercise. *International Journal of Occupational Safety and Ergonomics*, 14(2), 119-131.
- Pienaar, J., Sieberhagen, C. F., & Mostert, K. (2007). Investigating turnover intentions by role overload, job satisfaction and social support moderation. *SA Journal of Industrial Psychology*, 33(2), 62-67.
- Pieterse, A. N., van Knippenberg, D., Schippers, M., & Stam, D. (2010). Transformational and transactional leadership and innovative behavior: The moderating role of psychological empowerment. *Journal of Organizational Behavior*, 31(4), 609-623.
- Pradana, A., & Salehudin, I. (2015). Work overload and turnover intention of junior auditors in Greater Jakarta, Indonesia. *The South East Asian Journal of Management*, 9(2), 108-124.
- Pratoom, K., & Savatsomboon, G. (2012). Explaining factors affecting individual innovation: The case of producer group members in Thailand. *Asia Pacific Journal of Management*, 29(4), 1063-1087.
- Qureshi, M. I., Iftikhar, M., Abbas, S. G., Hassan, U., Khan, K., & Zaman, K. (2013). Relationship between job stress, workload, environment and employees turnover intentions: What we know, what should we know. *World Applied Sciences Journal*, 23(6), 764-770.
- Reuvers, M., Van Engen, M. L., Vinkenburg, C. J., & Wilson-Evered, E. (2008). Transformational leadership and innovative work behaviour: Exploring the relevance of gender differences. *Creativity and Innovation Management*, 17(3), 227-244.
- Robbins, S. P., & Coulter, M. (2007). *Management*. Prentice- Hall.
- Rogers, E. M. (1995). *Diffusion of Innovations*. Free Press.
- Rutherford, M. W., & Holt, D. T. (2007). Corporate entrepreneurship: An empirical look at the innovativeness dimension and its antecedents. *Journal of Organizational Change Management*, 20(3), 429-446.
- Sarafidou, J., & Xafakos, E. (2015). Transformational leadership and principals' innovativeness: Are they the 'keys' for the research and innovation oriented school?. In K. Beycioglu, & P. Pashiardis (Eds.), *Multidimensional Perspectives on Principal Leadership Effectiveness* (pp. 324-348). IGI Global.
- Sarros, J. C., Cooper, B. K., & Santora, J. C. (2008). Building a climate for innovation through transformational leadership and organizational culture. *Journal of Leadership & Organizational Studies*, 15(2), 145-158.
- Şentürk, F. K., Durak, M., Yılmaz, E., Kaban, T., Kök, N., & Baş, A. (2016). A research on determining the effects of transformational and transactional leadership on individual innovativeness. *Mehmet Akif Ersoy University Journal of Institute of Social Sciences*, 8(17), 173-198.
- Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *The Academy of Management Journal*, 37(3), 580-607.
- Timms, C., Graham, D., & Cottrell, D. (2007). "I just want to teach" Queensland independent school teachers and their workload. *Journal of Educational Administration*, 45(5), 569-586.
- Vaccaro, I. G., Jansen, J. J., van Den Bosch, F. A., & Volberda, H. W. (2012). Management innovation and leadership: The moderating role of organizational size. *Journal of Management Studies*, 49(1), 28-51.
- Warrilow, S. (2012). *Transformational Leadership Theory - The 4 Key Components in Change & Managing Change*.
- Watt, D. (2002). *How Innovation occurs in High Schools within the Network of Innovative Schools: The Four Pillars of Innovation Research Project*.
- Wenner, J. A., & Campbell, T. (2017). The theoretical and empirical basis of teacher leadership: A review of the literature. *Review of Educational Science*, 81(1), 134-171.

- Yuan, F., & Woodman, R. W. (2010). Innovative behavior in the workplace: The role of performance and image outcome expectations. *The Academic of Management Journal*, 53(2), 323-342.
- Yukl, G. (1999). An evaluative essay on current conceptions of effective leadership. *European Journal of Work and Organizational Psychology*, 8(1), 33-48.
- Yılmaz, R., & Beşkaya, Y. M. (2018). Investigation of lifelong learning trends and individual innovativeness level of education administrators. *Ankara University Journal of Faculty of Educational Sciences*, 51(1), 159-181.
- Zahra, T. T., & Waheed, A. (2017). Influence of ethical leadership on innovative work behavior: Examination of individual-level psychological mediators. *Pakistan Journal of Commerce & Social Sciences*, 11(2), 448-470.

#### Author Details

**Özgür Uygur**, Isparta Provincial Directorate of National Education, Turkey, **Email ID:** [uygurozg@gmail.com](mailto:uygurozg@gmail.com)

**Ahmet Yıldırım**, Süleyman Demirel University, Turkey, **Email ID:** [ahmet.yildirim@sdu.edu.tr](mailto:ahmet.yildirim@sdu.edu.tr)