Transformational Leadership and Innovative Climate: An Examination of the Mediating Effect of Psychological Empowerment

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Abstract

Problem Statement: The most important characteristic of today’s organizations is too much change. The demand of organizations to fulfill objectives within dynamic environmental aspects has required strong leadership. Organizations’ accommodation to changes, generating new ideas, adapting these ideas to organizations, and also the individual and intellectual development of employees have revealed the transformational leadership concept. Transformational leaders empower participants independently from supervision and control of leadership; they create an environment free from punishment, so that participants feel themselves as empowered, and this leads to their behaving in an innovative manner. Transformational leaders empower employees and generate a climate that supports innovation. Research about transformational leadership, psychological empowerment, and innovative climate is generally

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conducted within a business organization, and there are so few studies about these variables within schools.

Purpose of The Study: The purpose of this study is to examine the mediating effect of psychological empowerment on the relationship between transformational leadership and innovative climate.

Method: The survey model was used in this study. 303 teachers working in Eskisehir Central Secondary School participated in this research. However, outlier values were examined, and the values of two participants including improper data sets were deleted; therefore, the number of participants was determined to be 301. Three different scales were used in this research. The validity and reliability of the scales were examined. Mean, standard deviation, Pearson correlation and stepwise regression analysis techniques were used.

Findings: It was found that there was a significant positive relationship between transformational leadership and psychological empowerment. A significant positive relationship was found between psychological empowerment and innovative climate, as well. The stepwise regression analysis showed a significant relationship between transformational leadership and innovative climate. According to the Sobel test results, the relationship between transformational leadership and innovative climate was decreasing but significant ($z=2.43$, $p<0.05$). Therefore, it has been determined that psychological empowerment partially mediated the relationship between transformational leadership and innovative climate.

Conclusion and Recommendations: Transformational leadership affects innovative climate both directly and indirectly through psychological empowerment. However, research about psychological empowerment in educational organizations and innovation and creativity at schools is very limited. In relation to this study, the effect of the leadership roles of principals, on the level of the psychological empowerment of teachers on their innovative and creative behaviors, can be examined.

Key Words: Transformational leadership, empowerment, innovation, innovative climate

Introduction

The most important characteristic of today’s organizations is too much change. In order to survive, organizations need to accommodate rapidly changing environmental aspects. The demand of organizations to fulfill objectives within dynamic environmental aspects has required the leadership (Kanungo, 2001). Organizations’ accommodation to changes, generating new ideas, adapting these ideas to organizations, and also individual and intellectual development of employees have revealed the transformational leadership concept. Transformational leadership was
asserted by Burns (1978), and Bass (1985) developed the structure; the dimensions of transformational leadership were designated as idealized influence (charisma), inspirational motivation, intellectual stimulation and individualized support (Bass, 1999; Bass & Avolio, 1993; Bass & Steidlmeier, 1999).

Research about transformational leadership in educational environments has determined three main dimensions of transformational leadership: initiating and identifying a vision, providing for individualized support, and providing for intellectual stimulation (Geijssel, Sleegers, Stoel & Krüger, 2009). Vision is the intellectual picture of a demand and a probable position of an organization in the future. Vision includes a particular mission and detailed objectives (Carlson & Perrewe, 1995). By clarifying long-term vision and objectives of transformational leaders, employees’ intrinsic motivation levels increase, causing them to be more motivated to generate creative solutions for problems (Jung, 2001). Intellectual stimulation includes encouraging participants to question hypothesis, challenge status quo, redefine problems, and utilize imagination, intellectual wonder, and new approaches (Shin & Zhou, 2003). Transformational leaders encourage teachers to question their values, beliefs, and assumptions and improve problem-solving ability by intellectual stimulation (Geijssel et al., 2009). Employees can try reformist approaches, if they are not afraid of being punished for failure. Transformational leaders create an organizational environment to lead to innovation and creativity by intellectual stimulation. Transformational leaders encourage participants to reconsider prior problems and their values and customs (Jung, 2001). Individualized consideration focuses on a participant’s improvement. This includes considering the participants’ needs, developing empathy, supporting attempts and views, and appreciating (Shin & Zhou, 2003). Individualized support and consideration help to recognize and meet the needs and interests of each participant (Geijssel et al., 2009).

Transformational leaders have a positive effect on teachers’ motivation through improving their self-efficacy, self-esteem, and self-confidence (Jung & Sosik, 2002). Transformational leaders rely on the powerful commitment between the leader and participants, and they look for ways to transform participants’ values and self-concepts (Jung, 2001). They empower participants independently from the supervision and control of leaders; they create an environment free from punishment so that, participants feel empowered, which in turn leads their behaving in an innovative manner (Jung & Sosik, 2002). Transformational leaders create an environment to lead creativity by stimulation, encouraging participants to reconsider former problems (Jung, 2001). Therefore, transformational leaders empower the employee and create a climate that supports innovation.

Since empowerment is an important subject of administrative and organizational studies, interest in this concept has started to increase (Conger & Kanungo, 1988). As the empowerment concept is complex, various definitions have been described (Quinn & Spreitzer, 1997). Conger and Kanungo (1988) stated that empowerment should be discussed in two respects, as a relational construct and as a motivational construct. Empowerment as a relational construct has been described as sharing power and transferring authority and responsibility (Keedy & Finch, 1994). Conger and Kanungo
(1988) regarded the definition of empowerment as a relational construct as inadequate and described the concept as an increasing process of the self-efficacy beliefs among organization participants. Thomas and Velthouse (1990) improved this approach and regarded as a multi-faceted structure. Spreitzer (1995) stated that psychological empowerment consists of four cognitive items: meaning, competence, self-determination, and impact. Meaning is described as the value of a task’s goal or objective in terms of individual’s own ideals or standards; and the place in a particular task. Competence or self-efficacy states an individual’s ability to perform a duty or an action and belief about the ownership of a professional. Self-determination represents individual’s ability to choose his or her own actions feeling free about those decisions. Impact is described as the level of affecting the strategic, administrative, and functional aspects of an employee’s task (Avalio, Zhu, Koh, & Bhatia, 2004; Spreitzer, 1995).

Despite that empowerment is a concept that the business world raised, the efforts to empower teachers started simultaneously with employee empowerment. Empowering teachers has been described as giving teachers responsibility, choice, and autonomy (Edwards, Green, & Lyons, 2002; Wan, 2005). The relationship between empowerment and various variables has been investigated in the educational context. To be general, a positive relationship between empowerment and concepts such as commitment, satisfaction, and trust has been determined (Dee, Henkin, & Duemer, 2003; Davis & Wilson, 2000; Rinehart & Short, 1994; Moye, Henkin, & Egley, 2005).

Creativity and innovation are affected by organizational factors (Amabile, Conti, Coon, Lazenby, & Herron, 1996). Since empowered staff act independently from the fear of punishment and have the authority of self-supervision, they display innovative approaches to tasks and problems (Jung & Sosik, 2002). Although creativity and innovation are interchangeable in some contexts, there is a consensus about their distinct definitions (Scott & Bruce, 1994). Creativity is described as the generation of novel and useful ideas, and innovation is described as the successful implementation of these ideas within an organization (Amabile et al., 1996; Mumford & Gustafson, 1988; Woodman, Sawyer, & Griffin, 1993). An innovative climate is described as the shared perceptions of members about values, politics, procedures, and rules encouraging behaviors and generating new information and implementations (Moolenaar, Daly, & Sleegers, 2010; Trevino, Butterfield, & McCabe, 1998). The innovative climate effects generation of new ideas in organizations and application these successfully (Mumford, Scott, Gaddis, & Strange, 2002). Research about transformational leadership, psychological empowerment, and innovative climate are generally conducted within a business organization and consequently there is so little research about these variables within schools.

The purpose of this study is to examine the mediating effect of psychological empowerment on the relationship between transformational leadership and innovative climate. Through this aim, research problems are as follows:

1. Is there a relationship between transformational leadership, psychological empowerment, and innovative climate?
2. Is there a relationship between psychological empowerment and innovative climate?

3. Does psychological empowerment mediate the relationship between transformational leadership and innovative climate?

Method

Research Design

A correlational research design is used to describe the statistical association between transformational leadership and innovative climate.

Research Sample

The research sample composed of 303 teachers working in Eskisehir Central Secondary School. A random sampling method was used. However, outlier values were examined, and the values of two participants improper to data sets were deleted, and the final number of participants was determined as 301. Out of 301 participants, 197 (65.4%) were female and 104 (34.6%) were male. 18 of the teachers (6%) had 1-5 service years, 75 (24.9%) had 6-10 service years, 75 (24.9%) had 11-15 service years, 59 (19.6%) had 16-20 service years and 74 (24.6%) had 20 or more service years. In terms of age, 36 teachers (12%) were 20-30 years old, 143 teachers (47.5%) were 31-40 years old, 81 teachers (26.9%) were 41-50 years old, and 41 teachers (13.6%) were 51 years old or more. In terms of educational level, 6 teachers (2%) had an associate degree, 262 teachers (87%) had an undergraduate degree, and 33 teachers (11%) had a graduate degree.

Research Instruments

Three different scales were used in this research. The Transformational Leadership Scale, developed by Geijsel et al. (2009), was used with the aim of determining transformational leadership behaviors of school principals within the educational context. The scale contains 15 items in the form of five-point Likert scale and three sub-dimensions, vision building, individualized support, and intellectual stimulation. There are five items for the vision building sub-dimension, four items for the individualized support sub-dimension, and six items for the intellectual stimulation sub-dimension. The psychological Empowerment Scale was developed by Spreitzer (1995). This scale includes four dimensions: meaning, competence, self-determination, and impact and each of these dimensions has three items. These scales have been translated into Turkish by two English teachers and then have been translated into English by two different English teachers. Therefore, Turkish adaptations of the scales were performed. For the innovative climate of schools, the scale developed by Bryk et al. (1999) and used by Moolenaar et al. (2010) in order to designate the innovative climate perceptions of teachers has been used. This scale contains six items and was adapted into Turkish by Sagnak (2012).
Validity and Reliability

The validity of the scales is examined with a confirmatory factor analysis in order to verify the original structure, and the results are presented in Table 1.

Table 1. Goodness of Fit Values

<table>
<thead>
<tr>
<th>Scales</th>
<th>χ²</th>
<th>sd</th>
<th>P</th>
<th>χ²/sd</th>
<th>RMSEA</th>
<th>NFI</th>
<th>CFI</th>
<th>GFI</th>
<th>AGFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>TL</td>
<td>233.11</td>
<td>79</td>
<td>p&lt;.05</td>
<td>2.95</td>
<td>0.080</td>
<td>0.98</td>
<td>0.98</td>
<td>0.90</td>
<td>0.85</td>
</tr>
<tr>
<td>PE</td>
<td>121.49</td>
<td>48</td>
<td>p&lt;.05</td>
<td>2.53</td>
<td>0.069</td>
<td>0.96</td>
<td>0.97</td>
<td>0.94</td>
<td>0.90</td>
</tr>
<tr>
<td>IC</td>
<td>21.72</td>
<td>7</td>
<td>p&lt;.05</td>
<td>3.10</td>
<td>0.091</td>
<td>0.97</td>
<td>0.98</td>
<td>0.97</td>
<td>0.92</td>
</tr>
</tbody>
</table>

Because analysis tests for the suitability of the statistical value are sensitive to sample size, using $\chi^2$/sd values is more appropriate (Hair, Black, Babin, & Anderson, 2010). This value was found as 2.95 for transformational leadership, 2.53 for psychological empowerment, and 3.10 for innovative climate. Byrne (1998) argued that if it is below a 5 value, the model has an acceptable fit (as cited in Doğan & Başokçu, 2010). Table 1 showed that the goodness of fit indexes indicated a good fit or acceptable fit of the proposed model (Schermelleh-Engel, Moosbrugger, & Müller, 2003; Schumacker & Lomax, 2004; Yılmaz & Çelik, 2009), and that scales have structural validity. The scales’ reliability levels were determined as .94 for transformational leadership, .81 for psychological empowerment, and .78 for innovative climate.

Data Analysis

In accordance with the purpose of this study, the mediating role of psychological environment for the relationship between transformational leadership and innovative climate has been tested through following the process, which was recommended by Baron and Kenny (1986). According to these scientists, the independent variable must be related to the mediating variable and dependent variable. Further, the mediating variable must be related to the dependent variable with the independent variable controlled in the model. If the relationship between the independent variable and the dependent variable is not significant when controlling for the mediator variable, full mediation is present. If the relationship between the independent variable and the dependent variable is reduced but significant in the last step, partial mediation is present. Mean, standard deviation, Pearson correlation, and stepwise regression analysis techniques were used.

Results

Mean, standard deviation, and correlation between transformational leadership, psychological empowerment, and innovative climate have been given in Table 2.
### Table 2.

**Descriptive Statistics**

<table>
<thead>
<tr>
<th>Scales</th>
<th>(\bar{X})</th>
<th>Ss</th>
<th>TL</th>
<th>PE</th>
<th>IC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformational Leadership</td>
<td>49.59</td>
<td>13.13</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological Empowerment</td>
<td>49.28</td>
<td>5.41</td>
<td>.16*</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Innovative Climate</td>
<td>21.84</td>
<td>4.15</td>
<td>.19*</td>
<td>.27*</td>
<td>1.00</td>
</tr>
</tbody>
</table>

*\(p<0.01\)

As it has seen in Table 2, for transformational leadership the mean is \(\bar{X}=49.59\); for psychological empowerment it is \(\bar{X}=49.28\); and for innovative climate it is \(\bar{X}=21.84\). There was a significant positive relationship between transformational leadership and psychological empowerment (\(r=.16; p<0.01\)). A significant positive relationship was found between transformational leadership and innovative climate (\(r=.19; p<0.01\)). Psychological empowerment was significantly related to innovative climate (\(r=.27; p<0.01\)).

### Table 3.

**Regression Analysis Results**

<table>
<thead>
<tr>
<th>Test Steps</th>
<th>(B)</th>
<th>(\beta)</th>
<th>(t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictor: Transformational Leadership</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mediator: Psychological Empowerment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R= 0.16</td>
<td></td>
<td>0.16</td>
<td>2.96*</td>
</tr>
<tr>
<td>F= 8.76</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictor: Transformational Leadership</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcome: Innovative Climate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R= 0.19</td>
<td></td>
<td>0.19</td>
<td>3.40*</td>
</tr>
<tr>
<td>F= 11.56</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictor: Transformational Leadership</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mediator: Psychological Empowerment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcome: Innovative Climate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R= 0.31</td>
<td></td>
<td>0.15</td>
<td>2.70*</td>
</tr>
<tr>
<td>F= 15.90</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*\(p<0.01\)
Table 3 indicated that transformational leadership is significantly related to psychological empowerment ($\beta=0.16$, $p<0.01$) and innovative climate ($\beta=0.19$, $p<0.01$) (step 1 and 2). The results (step 3) indicated that there was a significant relationship between transformational leadership and innovative climate ($\beta=0.15$, $p<0.01$). Although this relationship decreases, it is still at a significant level. By the Sobel test results, the decrease was found to be is significant ($z=2.43$, $p<0.05$). Therefore, it has been determined that psychological empowerment partially mediates the relationship between transformational leadership and innovative climate.

**Discussion and Conclusions**

The purpose of this study was to examine the mediating effect of psychological empowerment on the relationship between transformational leadership and innovative climate. The results showed that transformational leadership is a significant predictor of psychological empowerment and innovative climate in schools. Accordingly, it is reasonable to say that as the transformational leadership behaviors of the principal increase, psychological empowerment, and in turn, innovative climate will increase. It has been found that psychological empowerment partially mediates the relationship between transformational leadership and innovative climate. These conclusions are similar to most research results discussed below.

Transformational leaders empower their employees in order to let them perform independently from supervision and control. Employees feel empowered in the environment created by transformational leaders; Jung and Sosik (2002) argued that transformational leadership has a positive relationship with group cohesiveness and group efficacy. Krishnan (2012) found that empowerment plays a mediator role on the relationship between the meaning of life and well-being. Avolio et al. (2004) showed that psychological empowerment plays a mediator role on the relationship between transformational leadership and organizational commitment.

Leadership is one of the basic factors affecting innovation and creativity in organizations (Zhou & George, 2003). If relations are not based on status quo, employees have the opportunity to choose and take risks; it has been asserted that they display creative behaviors (Tierney, Farmer, & Graen, 1999). Research suggested that transformational leaders positively affect organizational innovation and creativity (Gumusluoglu & Ilsev, 2007; Jung, Chow, & Wu, 2003). Mumford et al. (2002) stated that an innovative climate has a powerful effect on the innovative and creative behaviors of its member. As an innovative climate encourages its members to take risks, it does not punish failures and supplies autonomy for the members (Jung et al., 2003).

Schools cannot be unconcerned with the rapid changes of today’s world. Principals take on the most critical role of schools’ functioning in accordance with the characteristics of information age. The leadership behaviors of principals are the most important factor in the environmental conditions required for innovation and creativity. One of the most effective leadership approaches to this era is...
transformational leadership, and therefore it is one the most studied approaches. Transformational leaders give employees a sense of community and encourage them to try new things and take risks. Thus, the conditions necessary for members' psychological empowerment are met. If employees regard work as meaning, believe they have the ability to perform effectively, and feel they have the power to choose and affect outcomes, an innovative climate should be possible. This study confirmed these theoretical statements.

This study showed that research in educational environments will draw conclusions similar to studies conducted in the business world. However, there is still so little research about psychological empowerment in educational organizations and their innovation and creativity at schools. Because of this study, the effect of the principals' leadership roles, on the level of teachers' psychological empowerment can be examined.

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Quinn, R. E., & Spreitzer, G. M. (1997). The road to empowerment: Seven questions every leader


Dönüşümcü Liderlik ve Yenilikçi İklim: Psikolojik Güçlendirmenin Aracılık Etkisinin Incelenmesi

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Özet


güçlendirir ve yeniliği destekleyen bir iklim oluştururlar. Dönüşümcü liderlik, psikolojik güçlendirme ve yenilikçi iklim araştırmlarının genellikle işletme örgütlerinde yapıldığı, okullarda bu değişkenlerle ilgili araştırmların oldukça sınırlı olduğu söylenebilir.


**Araştırmanın Bulguları:** Dönüşümcü liderlik ile psikolojik güçlendirme (r=.16; p<0.01) ve yenilikçi iklim (r=.19; p<0.01) arasında pozitif yönde ve anlamlı ilişki belirlenmiştir. Psikolojik güçlendirmenin yenilikçi iklimi anlamlı düzeyde etkilediği bulunmuştur (r=.27; p<0.01). Aracılık testi sonucunda, dönüşümcü liderliğin yenilikçi iklimi anlamlı düzeyde etkilediği (β=0.15, p<0.01) fakat bu ilişkinin azaldığı ancak anlamlı düzeyde olduğu belirlenmiştir. Yapılan Sobel testi sonuçlarına göre de bu azalmanın anlamlı olduğu bulunmuştur (z=2.43, p<0.05). Buna göre, dönüşümcü liderlik ile okulun yenilikçi iklimi arasındaki ilişkiye psikolojik güçlendirmenin kısmi aracılık özelliği gösterdiği belirlenmiştir.

**Araştırmanın Sonuç ve önerileri:** Araştırmanın sonuçlarına göre, dönüşümcü liderliğin psikolojik güçlendirmenin ve okulun yenilikçi ikliminin anlamlı yordayıcısı olduğu bulunmuştur. Buna göre, müdürlerin dönüşümcü liderlik davranışları attraversa psikolojik güçlendirmenin ve bunun sonucunda okulun yenilikçi ikliminin artacağı söylenebilir. Dönüşümcü liderlikte psikolojik güçlendirme ve yenilikçi iklim, psikolojik güçlendirme ile de yenilikçi iklim arasında anlamlı pozitif ilişki bulunmuştur. Dönüşümcü liderliğin yenilikçi iklimi hem doğrudan hem de psikolojik güçlendirme üzerinden dolaylı etkilediği belirlenmiştir. Değişim çok hızlı yaşandığı günümüzde okulların bu değişimde kayıtsız kalması beklenemez. Bilgi çağının özellikleri uygun olarak okullardan beklenen işlevsellikin sağlanabilmemesinde en önemlî rol okul müdürlerine düşmektedir. Okul müdürlerinin göstergecekleri liderlik davranışları yenilik ve vararçılık için gerekli çevresel koşulların oluşmasında en

Anahtar kelimeler: Dönüşümcü liderlik, güçlendirme, yenilik, yenilikçi iklim