The Correlation Between Mushroom Management Approach and School Leadership Behavior of School Administrators Based on Teacher Perceptions

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Intruduction

“Unfortunately, employees can turn into poisonous mushrooms instead of turning into healthy flavors.”

The use of human capital for organizational goals, which is the most important property for organizations, depends on active management processes exhibited by the administrators and their leadership qualifications. Thus, administration and leadership are more important in organizations such as educational institutions that focus on the human element. It would be easier to establish active schools when the management approach adopted by the administrator is integrated with leadership. When this cannot be achieved, it would be difficult to achieve the desired achievements in education.

The mushroom management approach, which has been popular and the topic of only a few studies in recent years, currently attracts significant attention of the researchers. In this approach, the reflection of the metaphorical perceptions developed based on the mushroom cultivation process to the administrative sciences is discussed. Various scientists published several narratives on the mushroom management approach. Mushroom metaphor is a term used to describe a management style (oxfordreference.com) where employees are kept in the dark like mushrooms and are periodically given “fertilizer”. Here, with the fertilizer metaphor, it has been tried to explain the limited sharing of information that is needed at certain intervals in order to prevent the employees from leaving the organization completely. There are various expressions of different scientists in the literature on mushroom management approach. Herman (1997) described the mushroom management approach as the prevention of the access of the employees to information resources similar to the mushroom growth process and adopting a one-way communication style. So much so that communication is the most important issue an administrator should have in order to be successful (Răducan & Răducan, 2014). Communication, having a leader or manager's effective communication skills is the most
powerful tool that employees can demonstrate in sharing information. When the employees do not trust the managers about the information flow about the institution, in other words, they feel that they are kept in the dark like a mushroom when they think that the manager does not share some information and constantly controls them (Bolea & Atwater, 2014). Managers who adopt the mushroom management approach desire to centralize power and knowledge; thus, aim to prevent criticism by the employees (Tekin & Birincioğlu, 2017). In other words, managers assign certain tasks to the employees, but they do not explain the reasons for fulfilling these tasks (Birincioğlu & Tekin, 2018). As such, the mushroom management approach is perceived as a negative approach since it adopts administrative implementations that contrast with open, democratic, participatory and transparent management practices. It is perceived as a negative approach that managers who apply the mushroom approach will tend to attribute these behaviors to more positive reasons, but they will never be accepted by employees who are in this “mushroom” position, are pushed into darkness and tend to blame management (Atwater & Waldman, 2008; Kılıç & Olgun, 2017).

The essence of the mushroom management theory is that managers do not fully disclose information that might be relevant to other people in the organization, especially employees at lower hierarchical levels. Sometimes this can arise by manipulating the nature of shared information or by timely delivery (e.g. after making an important decision on information) (Atwater & Waldman, 2008). Information sharing is a subject that is intertwined with leadership, but leadership plays a central role in supporting the behavior of sharing information and creating an environment (De Melo et al., 2013; De Vries, Bakker-Pieper, & Oostenveld, 2010). For this reason, it is thought that the manager should have leadership skills in order to overcome the negative situations that mushroom management may cause. Perhaps the most intuitive and indeed biggest reason for the emergence of applications related to mushroom theory is that it reflects weak leadership (Atwater & Waldman, 2008).
Managers with a mushroom management approach do not communicate effectively and can ignore employees. There are two types of administrators, the importance of which cannot be ignored in terms of schools, being closed and open to the outside. While such openness means sharing information, the manager is defined as the person who chooses to ask or tell their employees before making a final decision. If it is a closed species, it is the manager who prefers to tell his employee after reaching a definitive decision (Geçikli, 2004). This type of mushroom is the basis of the management approach. It is likely that a manager who hides, manipulates information is perceived as a manager who lacks integrity and therefore is not a leader, and is not a desired situation for a person who works in a managerial position (Atwater & Waldman, 2008).

A review of the domestic and international literature on the above-mentioned management would demonstrate that the number of studies on the subject are very limited. A review of the topics discussed in these studies would demonstrated that these studies have frequently focused on metaphorical perceptions on mushroom management, the level of the implementation of the mushroom management in organizations and scale development (Atwater & Waldman, 2008; Bolea & Atwater, 2014; Herman, 1997; Kılıç, 2015; Kılıç & Olgun, 2017; Tekin & Birincioğlu, 2017). Three specific features for managers who are likened as “mushroom growers”; personalized strength, lack of confidence in employees, and risk aversion and lack of courage (Atwater & Waldman, 2008). The role and importance of leadership, which has positive features that are the opposite of these negative features, emerges here.

Despite the mushroom management approach, the school principal should communicate and collaborate actively with the school staff to achieve the school objectives (Özdemir & Sezgin, 2002). Therefore, school leadership is significant for the achievement of this strategy. School leadership affects teacher motivation and plays a key role in improving the outcomes,
as well as influencing the school environment and climate (Pont, Nusche & Moorman, 2008). In fulfilling this task, the school principal is expected to lead as an active, productive, visionary, motivating, knowledgeable and principled leader to eliminate administrative problems in the school and to sustain educational development (Şen, Ateşoğlu & Akdoğan, 2017). It is important that the school principle should prioritize active communication skills when performing this role. Thus, the manager could share necessary information with the employees and take necessary actions to inform them.

There are two types of administrators, the importance of which could not be neglected for the schools; closed and open to external effects. While openness entails sharing information, an open administrator is defined as an individual who prefers to discuss with employees before making a final decision. A closed type administrator prefers to tell only the decisions to the employees (Geçikli, 2004). This type of administrators are the basis of the mushroom management approach.

The leadership type that school administrators adopt in their management style is important in creating effective schools. The limited number of studies on the mushroom management approach in Turkish and foreign literature and the lack of studies on prediction of school leadership by the mushroom management approach strengthen the significance of the present study. Managers may generally believe that information privacy or manipulation is the best course of action for employees and the organization, or they may not be able to perceive that they have engaged in such behavior (Atwater & Waldman, 2008). For this reason, it is important to examine the existence of mushroom management practices in organizations from the perspective of employees. In this context the present study aimed to investigate the degree that the mushroom management approach adoption levels of school administrators predicted school leadership based on teacher perceptions and literature review. The study aimed to solve the following research problems:
1. Is there a significant correlation between the mushroom management approach adoption levels of the school administrators and school leadership?

2. Is the level of the mushroom management approach adoption by school administrators a significant predictor of school leadership?

Methods

The present study aimed to determine the level that the adoption of mushroom management approach by school administrator predicted their school leadership levels. In the present study developed with the quantitative research paradigm, the relational screening model was utilized. Thus, the mushroom management approach was determined as an independent variable and school leadership was considered as the dependent variable. Relational screening model is a research method used to determine the presence and/or degree of covariance between two and more variables (Karasar, 2007).

Population and Sampling

It is considered that the mushroom management approach is exhibited as a form of behavior in many institutions beyond just a theory, but managers will not accept that they leave their employees in the dark like a mushroom. Because in this case, they will be themselves a “mushroom farmer” (Atwater & Waldman, 2008). For this reason, it is thought that it would be appropriate to get the opinions about mushroom management practices and leadership in an institution from the employees rather than the managers. In this context the study population included teachers employed in preschool, primary, middle and high schools in Eastern and Southeastern Anatolia Region during the 2018-2019 academic year and determined with random and disproportionate cluster sampling method. Cluster sampling is used when there are various natural or artificial groups with similar properties in a population (Yıldırım & Şimşek, 2006). The sampling covered the provinces of Mardin Batman, Diyarbakır, Elazığ, Şanlıurfa, Şırnak, Van, Adıyaman, Kahramanmaraş, Kars, Iğdır and Tunceli in Turkey. Random schools
were selected in these provinces and a questionnaire was distributed to 500 teachers employed in the selected schools to determine their views. However, only 379 teachers completed the distributed questionnaires. The return rate was determined as 75.8%. Mahalanobis distances were calculated for the returned questionnaires and it was concluded that there were mistakes in 15 questionnaires and these were excluded from the analysis. The data on the participant are presented in Table 1.

Table 1

*Frequency and percentage distributions for the study group demographics*

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total</th>
</tr>
</thead>
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<td></td>
<td></td>
<td></td>
<td>364</td>
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<tr>
<td>N</td>
<td>171</td>
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<tr>
<td>%</td>
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<td>53.0</td>
<td></td>
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<td>Class</td>
<td>Branch</td>
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<td>297</td>
<td></td>
<td></td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>%</td>
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<td>81.6</td>
<td></td>
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<td>11-15</td>
<td>16-20</td>
<td>21+…</td>
<td>364</td>
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<tr>
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<td>123</td>
<td>69</td>
<td>23</td>
<td>20</td>
<td>100</td>
</tr>
<tr>
<td>%</td>
<td>35.4</td>
<td>33.8</td>
<td>19.0</td>
<td>6.3</td>
<td>5.5</td>
<td>100</td>
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<td>66</td>
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<td></td>
<td>100</td>
</tr>
<tr>
<td>%</td>
<td>20.3</td>
<td>18.1</td>
<td>61.5</td>
<td></td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Age</td>
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<td>41+…</td>
<td></td>
<td></td>
<td>364</td>
</tr>
<tr>
<td>N</td>
<td>123</td>
<td>180</td>
<td>61</td>
<td></td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>%</td>
<td>33.8</td>
<td>49.5</td>
<td>16.8</td>
<td></td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Education Status</td>
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<td>Graduate</td>
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<tr>
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<td>59</td>
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<td></td>
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<tr>
<td>%</td>
<td>83.8</td>
<td>16.2</td>
<td></td>
<td></td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

Data Collection Instruments

To determine the correlation between the mushroom management approach and school leadership style adopted by school administrators and the level that mushroom management level predicted school leadership, the data collected from the teachers were processed as follows to test data reliability.
The data entered in the SPSS software were checked for missing or incorrect data. The identified missing data were reassigned with the series average technique. The erroneous data were extracted (it was found that 6 items were erroneous, the enumerated questionnaires were reevaluated and the real values were entered). Certain items (items 4, 5, 9, 12, 14 for the mushroom management scale) were scored in reverse order through recoding. Mahalanobis distances were tested for outliers. Normality tests were conducted on the data set. To test the suitability of the data for factor analysis, KMO and Barlett test findings were reviewed. The internal consistency coefficients were analyzed.

Two scales were used to collect the study data:

1. **Mushroom Management Scale**: The scale, developed by Birincioğlu & Tekin (2018), includes 19 items and 4 factors. The scale was scored as a 5-point Likert type scale. The first factor includes 6 items (1, 2, 3, 4, 5, 6), the second factor includes 5 items (7, 8, 9, 10, 11), the third factor includes 4 items (12, 13, 14, 15), and the fourth factor includes 4 items (16, 17, 18, 19). These factors include "inadequate information sharing", "anxiety to lose authority", "inadequate communication" and "lack of participatory management". Based on the confirmatory factor analysis conducted to confirm the four-factor structure of the scale, it was determined that the chi-square was significant, value $X^2 = 297.38$, $df = 109$, $p < 0.00$. The fit index values were found as follows: RMSEA = .011, CFI = .93, GFI = .81, SRMR = .13, NFI = .90, NNFI = .92. Thus, it was possible to argue that the four-factor structure of the mushroom management scale was confirmed. The internal consistency coefficient for the whole scale was .88. Total item correlations of the scale varied between .30 and .76.

2. **School Leadership Scale**: The 5-point Likert type scale developed by Beycioğlu, Özer, Uğurlu & Köybaşı (2018) includes 31 items and 3 factors. The first scale factor includes 15 items (13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26 and 27), the second factor includes 12 items (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12), and the third factor includes 4 items (28, 29,
Factors were named based on the item content. Accordingly, the first factor was called "cooperation", the second factor was called "support" and the third factor was called "openness".

Based on the confirmatory factor analysis conducted to confirm the three-factor structure of the scale, it was determined that the chi-square value was significant, $X^2 = 1058.18$, $df = 482$, $p < 0.00$. The fit index values were found as follows: RMSEA = .09, CFI = .94, GFI = .69, SRMR = .07, NFI = .91, NNFI = .94. Thus, it was possible to argue that the three-factor structure of the school leadership scale was confirmed. The internal consistency coefficient for the whole scale was .95. Total item correlations varied between .49 and .76.

Furthermore, Kaiser-Meyer-Olkin (KMO) sample fitness test and Bartlett's Sphericity Test were applied to the study scales to test the suitability of the data for factor analysis (Table 2).

<table>
<thead>
<tr>
<th>Scales</th>
<th>Kaiser-Meyer-Olkin (KMO)</th>
<th>Bartlett Test (sig.)</th>
<th>Sphericity</th>
<th>Variance Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mushroom Management</td>
<td>.853</td>
<td>1836.340</td>
<td></td>
<td>35.915</td>
</tr>
<tr>
<td>School Leadership</td>
<td>.907</td>
<td>3093.679</td>
<td></td>
<td>42.199</td>
</tr>
</tbody>
</table>

As seen in Table 2, the KMO value was .853 for the mushroom management scale and .907 for the school leadership scale, and a KMO value between 0.5 and 1.0 is considered acceptable (Altunışık, Coşkun, Bayraktaroğlu & Yıldırım, 2010). Thus, it was concluded that the data were adequate for factor analysis. The analysis of the Bartlett test results demonstrated that the chi-square value was significant for both scales at the level of 0.01 (sig. = .000), and this finding was due to the multivariate normal distribution of the data; thus, the data was suitable for factor analysis (Çokluk, Şekercioğlu and Büyüköztürk, 2010).
Shapiro-Wilks test was conducted to determine whether the score distributions of the test used to determine the extent to which the school administrators' levels of school leadership was predicted by their level of adoption of the mushroom management approach was normal. Kalaycı (2014) standardized kurtosis and skewness coefficients by dividing them into their own standard errors in normality tests. The resulting standard values (z values) are compared with the critical values. For skewness and kurtosis, these values are between +1.96 and -1.96 within the .05 significance level. The normal distribution findings on the mushroom management and school leadership scales are presented in Table 3.

Table 3

*The normal distribution findings on the study scales*

<table>
<thead>
<tr>
<th>Scales</th>
<th>Kaiser-Meyer-Olkin (KMO)</th>
<th>Bartlett Sphericity Test (sig.)</th>
<th>Variance Explanation Rate (%)</th>
</tr>
</thead>
<tbody>
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<td>.907</td>
<td>3093.679</td>
<td>42.199</td>
</tr>
</tbody>
</table>

As seen in Table 3, the analysis of the standardized skewness and kurtosis values (Z value) and Shapiro-Wilks test results demonstrated that the mushroom management scale and school leadership scale data were distributed normally.
Data Analysis

The frequencies and percentages for the data collected with the scales were analyzed with the SPSS software, and the model developed based on the literature with the confirmatory factor analysis conducted on the Mushroom Management Scale and School Leadership Scale was analyzed with the Lisrel 8.80 software. The correlation between the mushroom management approach adopted by school administrators and their school leadership levels was calculated with the Pearson’s product-moment correlation coefficient. Structural equation modeling was used to determine to what extent the mushroom management approach adopted by school administrators predicted their school leadership performance. The analyses were based on $p \leq .05$ and $p \leq .01$ levels.

Findings

To determine whether there was a correlation between the mushroom management approach adopted by the school administrators and their school leadership behavior, initially, the correlations between the variables were analyzed, and then, the model supported by the literature was tested with structural equation modeling. The matrix that demonstrates the correlations between the variables is presented in Table 4.
The review of the Table 4 demonstrated that there was a negative and significant correlation between the mushroom management approach adopted by school administrators and cooperation, support and openness sub-dimensions of school leadership based on the perceptions of teachers. The correlation values were $r = -.296$, $r = -.299$, $r = -.23$, and $r = -.337$, respectively. This finding suggested that the administrators who adopted the mushroom management approach were not good enough in school leadership based on teacher perceptions. Furthermore, it was observed that the highest correlation coefficients were between the openness sub-dimension, cooperation sub-dimension, school leadership and support sub-dimension, respectively. This finding demonstrated that the correlation between the mushroom management approach adopted by school administrators and the openness sub-dimension was stronger when compared to the correlation with the other variables. Structural equation model
on the level of prediction of school leadership by the mushroom management approach adopted by school administrators is presented in Figure 1.

**Figure 1**

*Structural equation model on the prediction of school leadership*

mantar: mushroom management; liderlik: school leadership; ybp: inadequate information sharing; gke: anxiety to lose authority; yi: inadequate communication; kye: lack of participatory management; isbirlig: cooperation; destek: support; aciklik: openness.

The analysis of the path coefficients that are used to verify the structural equation model developed to determine the effect of the mushroom management approach on school leadership demonstrated that the mushroom management approach adopted by the school administrators had a negative effect on school leadership ($\beta = -0.35; p <.05$). This finding suggested that the mushroom management approach negatively affected school leadership. Furthermore, it was determined that the chi-square value ($x^2 = 9.78$, df=12, p-value=0.00000, RMSEA=0.092) used to validate the model was significant. The fit index values were as follows: RMSEA = .09, CFI = .98, GFI = .96, SRMR = .05, NFI = .97, NNFI = .96; thus, so it was possible to argue that the model developed for the prediction of school leadership by the adoption of the mushroom management approach was confirmed.
Conclusion

When employees find that their managers do not provide information or are under extreme control, they feel that they are kept in the dark like a mushroom (Bolea, & Atwater, 2014). This situation may bring many negative situations such as decrease in loyalty and motivation and decrease in performance. In this context in the present study that was based on the hypothesis that there was a negative correlation between school leadership and mushroom management approach that describes an approach, which prevents the development of a democratic school culture by adopting a management style that does not allow employees to provide feedback through one-way communication, the extent that the level of adoption of the mushroom management approach predicted school leadership was investigated with the structural equation model. The analysis results demonstrated that there was a negative and significant correlation between the mushroom management approach adopted by school administrators and school leadership and cooperation, support and openness sub-dimensions of school leadership. Thus, it could be suggested that school administrators who adopt the mushroom management approach demonstrated inadequate school leadership behavior. Furthermore, the highest correlation coefficients were observed between the openness, cooperation and support sub-dimensions, respectively. This finding demonstrated that the inverse correlation between the mushroom management approach adopted by school administrators and the openness sub-dimension was stronger when compared to the correlations with other variables. In a study conducted by Kılıç (2015) with 30 senior healthcare managers and 30 healthcare workers, it was reported that 84% of the managers adopted the mushroom management style, in other words, they closed all communication channels, and 87% of the employees perceived mushroom management behavior. There are studies showing that the effective communication skills and effective information sharing of managers in mushroom management affect organizational success, performance, job satisfaction positively. (Fashiku,
At this point, considering that managers who exhibit a mushroom management approach do not have communication skills and keep information sharing limited, it is thought that it will affect many variables such as organizational success, performance and employee satisfaction. For this reason, it is necessary to predict the problems that can be caused by the mushroom management especially and prevent the problems that may arise due to their effective management skills.

The analysis of the path coefficients that were used to verify the structural equation model developed to determine the effect of the mushroom management approach on school leadership demonstrated that the mushroom management approach adopted by school administrators had a negative effect on school leadership. This finding could suggest that the mushroom management approach negatively affected school leadership. Furthermore, it was observed that chi-square value that validated the model was significant. The fit index demonstrated that the model for the prediction of school leadership by the mushroom management approach was confirmed. Thus, it was determined that the level of the adoption of mushroom management approach by school administrators predicted their school leadership behavior. In other words, it could be argued that school leadership behavior varies based on the adoption of mushroom management. It could be suggested that school administrators who adopt the mushroom management approach actually do not completely exhibit school leadership behavior.

The fact that the structural equation model developed based on the theoretical framework was confirmed demonstrated that the adoption of the mushroom management approach by the administrators is an obstacle to effective school leadership. Thus, it could be suggested that the management approach of the school administrators has a significant impact
on the development of a supportive and collaborative school culture where there is effective communication between management and the employees and the administration is open to the views and recommendations of the employees. Thus, adoption of different management styles by school administrators, especially a democratic and participatory management approach, should be considered as an element that would facilitate the management processes. In order for managers to gain the necessary awareness, it may be suggested to improve in-service training activities that would include case study presentations. The present study was limited by the perceptions of teachers. Further studies could be conducted to determine the perceptions of other school employees.

Atwater & Waldman (2008) stated that employees should not be treated as mushrooms to gain their trust and loyalty. Managers are required to communicate as clearly as possible and to ensure information flow effectively. For this purpose, it shows that managers should have leadership skills in order not to exhibit mushroom management approaches in line with the results of the study.

* This study was partly presented at the 60th International Eurasian Educational Research Congress in Ankara, June 19-20th 2019
References


