ISSN Online: 2821-1936

Transactions on Data Analysis in Social Science

Journal Homepage: https://transoscience.ir

Modeling The Structural Equations of Intelligent and Security-Focused Leadership, Job Performance, And Strategic Thinking in Physical Education Teachers

S. Khanmoradi[1,*], A. Olfati[2], N. Sajadi[3]

[1] PhD student in Sports Management, Faculty of Sports Sciences, Razi University, Kermanshah, Iran
[2] PhD in Sports Management, Islamic Azad University, Kermanshah, Iran
[3] Professor of Sports Management, Faculty of Sports Sciences, University of Tehran, Iran

ARTICLE INFO

Article History:
Received 4 March 2019
Received in revised form 17 May 2019
Accepted 25 June 2019
Available online 27 June 2019

Keywords:
Circuit Security Leadership, Intelligent Leadership, Strategic Thinking, Job Performance, Physical Education Teachers.

ABSTRACT

In this research, the aim was to investigate the impact of intelligent leadership and circuit security on job performance with the mediating role of strategic thinking in physical education teachers. The research is of an applied nature in terms of objective and a descriptive-survey method in terms of research methodology. The population includes all physical education teachers in elementary, first, and second high schools in Kermanshah province, totaling 1,100 individuals, including 600 males and 500 females. Using convenience sampling and the Cochran formula, a sample of 285 individuals was selected. Standard questionnaires were employed, including the Circuit Security Leadership by Koomb (2011), Intelligent Leadership by Seyyedanmanlaka (2002), Strategic Thinking by Liddell (1998), and Job Performance by Paterson (1970). Data analysis was conducted using Structural Equation Modeling (SEM) with the Partial Least Squares (PLS) approach and the Smart PLS 2 software. The findings of the research indicated that circuit security and intelligent leadership, with the mediating role of strategic thinking, have significant positive and negative indirect effects on the job performance of physical education teachers, respectively. It is recommended that relevant authorities, especially the Physical Education Department of Education and Training, incorporate economic, social, cultural, and legal support packages directly related to the profession alongside programs aimed at familiarizing physical education teachers with concepts such as intelligent leadership, circuit security, and strategic thinking.

1. INTRODUCTION

Leadership in education, particularly within the field of physical education, plays a pivotal role in enhancing teachers' job performance and fostering their strategic thinking [1]. Intelligent leadership, grounded in innovation, creativity, and the application of emotional and cognitive intelligence, guides teachers toward effective and informed decision-making. In contrast, security-oriented leadership, which focuses on establishing a psychologically safe environment, enables teachers to express their ideas and take constructive risks without fear of failure or criticism

*Corresponding Author: khanmoradisaeed@gmail.com
PhD student in Sports Management, Faculty of Sports Sciences, Razi University, Kermanshah, Iran

http://dx.doi.org/10.47176/TDASS.2019.107

[2,3]. Studies have demonstrated that these leadership styles are positively correlated with teachers' job performance and can lead to increased motivation, organizational commitment, and instructional efficiency [4]. Furthermore, strategic thinking among physical education teachers which encompasses long-term planning, environmental analysis, and anticipating challenges is reinforced through effective leadership and contributes to improved quality in sports education [1].

In recent years, Structural Equation Modeling (SEM) has emerged as a powerful analytical tool for examining the complex relationships among leadership variables, job performance, and strategic thinking. For instance, previous studies using SEM have shown that transformational leadership can enhance the job performance of educational staff by promoting knowledge sharing and creating a psychologically safe environment [4]. However, there remains a strong need for context-specific studies grounded in local data to adapt these models to the cultural and educational conditions of Iran.

Accordingly, the present study aims to develop a structural equation model to examine the relationships among intelligent and security-oriented leadership, job performance, and strategic thinking among physical education teachers. This approach can help identify latent patterns within educational data and provide valuable insights for policymakers in designing more effective leadership development programs.

2. LITERATURE REVIEW

In recent years, the role of leadership in establishing effective and motivating educational environments for teachers particularly in the domain of physical education has gained growing scholarly attention. The concept of intelligent leadership, emphasizing data-driven decision-making, organizational learning, and the integration of emotional and cognitive intelligence in professional interactions, has become one of the contemporary focal points in educational management research [6]. Intelligent leadership not only enhances adaptability to environmental changes but also promotes the development of strategic thinking among staff members [7].

Several studies have highlighted that intelligent leadership, by creating an open environment for innovation, learning, and collaboration, fosters the growth of strategic thinking capabilities. For instance, Nasrollahi et al. (2016) found a positive and significant relationship between the cognitive intelligence of leaders and employees' strategic thinking skills [8]. Similarly, international research has reported consistent findings; according to Shiwei et al. (2017), intelligent leadership through the utilization of collective knowledge and information improves the quality of key decision-making processes in educational organizations [9].

On the other hand, the concept of security-oriented leadership, as a style emphasizing psychological and occupational safety, has gained prominence in recent research [10]. Such leaders, through emotional support and trust-building, enhance organizational commitment and reduce job-related stress among teachers [11]. Within educational settings, this leadership style can increase the sense of stability and psychological well-being among physical education teachers and help prevent job burnout [12].

In relation to job performance, evidence from various studies indicates that the combination of intelligent and security-oriented leadership exerts a direct positive influence on teachers' intrinsic motivation and effective job performance [13]. In educational systems, when teachers experience security, participation, and respect, their levels of commitment and productivity tend to rise significantly [14].

From the perspective of strategic thinking, researchers argue that this skill enables teachers to make creative and purposeful decisions when confronted with educational challenges [15]. Among physical education teachers, strategic thinking through understanding long-term educational goals and engaging in data-driven planning contributes to improving instructional quality and student development [16].

Within the framework of Structural Equation Modeling, numerous studies have examined the relationships among leadership, job security, and performance. For example, Rahmani and Naderi (2018) demonstrated that intelligent leadership indirectly predicts teachers' job performance through job security [17]. Likewise, the findings of Jalali (2017) revealed that strategic thinking serves as a mediating variable in the relationship between intelligent leadership and job innovation [18].

Overall, the review of the literature suggests that the integration of intelligent and security-oriented leadership provides a comprehensive framework for enhancing job performance and strategic thinking among physical education teachers. Conceptual models based on SEM allow for the examination of both direct and indirect

relationships among these variables and can serve as valuable guides for educational managers and policymakers [19].

3. METHODOLOGY

his study is applied in purpose, descriptive–survey in nature, and methodologically based on structural equation modeling (SEM). The statistical population consisted of all physical education teachers at the elementary, lower secondary, and upper secondary levels in Kermanshah Province, totaling 1,100 individuals (600 males and 500 females).

To determine the sample, a convenience sampling method was employed, and the sample size was calculated using Cochran's formula. By substituting the population size (N = 1,100), a confidence level of 0.95, and an error margin of 0.05 into the formula, the required sample size for this study was determined to be 285 participants.

3.1. Research Instruments

The data collection instruments included the following standardized questionnaires:

Security-Oriented Leadership Questionnaire [20]:

This instrument consists of 25 items, rated on a five-point Likert scale (ranging from very low to very high). Sample items include:

"To what extent does an enjoyable and engaging work environment influence employees' behavior?" and

"To what extent does listening and inquiry affect employee behavior?"

This questionnaire assesses the degree of security-oriented leadership perceived by the respondents.

Intelligent Leadership Questionnaire [21]:

This questionnaire contains 23 items, measured on a five-point Likert scale, evaluating aspects of intelligent leadership such as cognitive, emotional, and adaptive intelligence in managerial behavior.

Strategic Thinking Questionnaire [22]:

This standardized instrument includes 24 items measured on a five-point Likert scale and assesses teachers' strategic and analytical thinking abilities.

Job Performance Questionnaire [23]:

This tool consists of 15 items designed to measure employees' job performance and productivity, rated using a five-point Likert scale.

3.2. Validity and Reliability

The validity of the questionnaires was confirmed by a panel of ten experts in sports management, ensuring content relevance and clarity.

The reliability of the instruments was verified using Cronbach's alpha coefficients, which were calculated as 0.82, 0.84, 0.76, and 0.80 for the four instruments, respectively. These values indicate satisfactory internal consistency.

3.3. Data Analysis Method

To test the research hypotheses, structural equation modeling (SEM) was performed in two phases measurement model and structural model using Smart PLS software.

The Smart PLS approach focuses on maximizing explained variance, and it is particularly suitable for studies with relatively small sample sizes or non-normal data distributions. Compared to covariance-based SEM methods, PLS is more flexible and less sensitive to distributional and sample-size assumptions.

To evaluate the measurement model, the following indices were used:

- Composite Reliability (CR)
- Average Variance Extracted (AVE)
- Discriminant Validity

Model goodness-of-fit was assessed using R^2, GOF (Goodness of Fit), and Q^2 indices.

To examine the effects among variables, two statistical indicators were used:

- t-values to test hypothesis significance
- standardized coefficients to measure the strength of relationships among variables

A t-value greater than 1.96 was considered evidence of a significant direct effect at the 95% confidence level.

To assess mediating effects, the Sobel test was employed. This test evaluates the significance of an indirect (mediating) effect between two variables.

If the Z-value exceeds 1.96, the mediating effect is considered statistically significant at the 95% confidence level.

4. FINDINGS

In this study, the partial least squares (PLS) approach to structural equation modeling (SEM) was employed, and the research model was analyzed in two stages: the measurement model and the structural model.

Table 1. Reliability analysis using PLS software

No.	Variable	Composite Reliability (CR)	Average Variance Extracted (AVE)	Cronbach's Alpha
1	Security-oriented leadership	0.94	0.43	0.94
2	Intelligent leadership	0.94	0.41	0.93
3	Strategic thinking	0.89	0.40	0.87
4	Job performance	0.90	0.40	0.89

Fornell and Larcker (1981) suggested that an AVE value of 0.40 or higher indicates that a latent construct explains at least 40% of the variance in its indicators. To assess composite reliability, Chin (1998) proposed the Dillon–Goldstein's rho coefficient, which should exceed 0.70. Furthermore, a Cronbach's alpha above 0.70 demonstrates acceptable internal consistency. Therefore, as shown in Table 1, all constructs in this study exhibit satisfactory reliability.

Table 2. Discriminant validity of the model

No.	Variable	1	2	3	4
1	Job performance	1			
2	Security-oriented leadership	0.14	1		
3	Intelligent leadership	0.11	0.62	1	
4	Strategic thinking	0.19	0.61	0.64	1

As presented in Table 2, the square root of AVE for each construct is greater than its correlations with other constructs, confirming the discriminant validity of the measurement model. The next step involves testing the structural model (path analysis), the results of which are summarized in Table 3.

Table 3. Model fit indices

No.	Variable	R^2	Predictive Relevance (Q^2)	Goodness-of-Fit (GOF)
1	Job performance	0.04	0.31	0.31
2	Security-oriented leadership		0.38	
3	Intelligent leadership		0.36	
4	Strategic thinking	0.78	0.26	

The most important model fit index in the PLS approach is the Goodness-of-Fit (GOF) index, introduced by Tenenhaus et al. (2004). Wetzels et al. (2009) suggested cutoff values of 0.10, 0.25, and 0.36 to indicate weak, moderate, and strong model fit, respectively. GOF is calculated as the geometric mean of the average R^2 and the average communality. As shown in Table 3, the obtained GOF value suggests a strong model fit.

Chin (1998) also proposed that R^2 values of 0.19, 0.33, and 0.67 can be considered weak, moderate, and substantial, respectively. According to Table 3, the R^2 values indicate that the model demonstrates a moderate level of explanatory power. Furthermore, when the Q^2 values of an endogenous construct are 0.02, 0.15, and 0.35, they indicate weak, medium, and strong predictive relevance, respectively. As shown in Table 3, the Q^2 values for the study variables demonstrate strong predictive capability.

Next, the structural equation modeling results obtained via PLS are presented in two forms: significance (t-values) for hypothesis testing and standardized estimates for determining the strength of the relationships among variables. The corresponding results are illustrated in Figures 1 and 2 and summarized in Table 4. In Figure 1, t-values greater than 1.96 indicate significant relationships at the 95% confidence level, while smaller values denote non-significance. Figure 2 presents the standardized path coefficients among the variables, and the summarized outcomes are reported in Table 4.

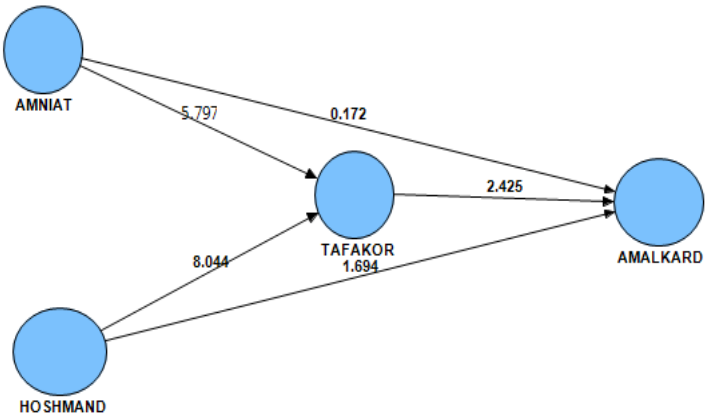

Fig. 1. The value of t related to the research model

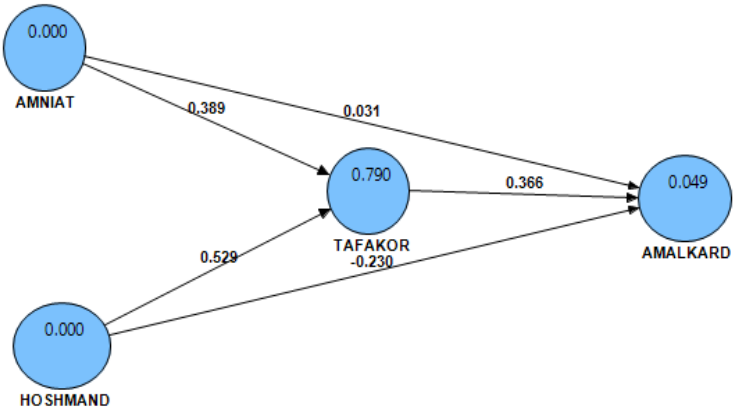

Fig. 2. Effect coefficient related to the research model

Table 5. Final Results of Path Analysis for Direct and Indirect Relationships

No.	Structural Path	Direct Effect	Indirect Effect	Total Effect	t-value	Result
1	Security-oriented leadership → Strategic thinking	0.38	–	0.38	5.97	Supported
2	Security-oriented leadership → Job performance	0.03	–	0.03	0.17	Rejected
3	Security-oriented leadership → Job performance (mediated by strategic thinking)	0.03	0.13	0.16	2.23	Supported
4	Intelligent leadership → Strategic thinking	0.52	–	0.52	8.04	Supported
5	Intelligent leadership → Job performance	–0.23	–	–0.23	1.69	Rejected
6	Intelligent leadership → Job performance (mediated by strategic thinking)	–0.23	0.18	–0.05	2.31	Supported
7	Strategic thinking → Job performance	0.36	–	0.36	2.42	Supported

As presented in Table 5, the direct effect of security-oriented leadership on strategic thinking was positive and significant ($\beta = 0.38$, $t = 5.97$). However, its direct effect on job performance was not statistically significant ($t = 0.17$). Nevertheless, the indirect effect of security-oriented leadership on job performance through the mediating role of strategic thinking was significant ($\beta = 0.16$). Likewise, intelligent leadership demonstrated a negative and significant indirect effect on job performance through strategic thinking ($\beta = –0.05$, $t = 2.31$). Finally, strategic thinking had a positive and significant direct effect on job performance ($\beta = 0.36$, $t = 2.42$). Overall, the direct effects of both security-oriented and intelligent leadership on job performance were not supported.

5. DISCUSSION AND CONCLUSION

Extensive research has been conducted on various leadership styles both domestically and internationally, most of which highlight the impact of leadership on organizational and occupational variables. Intelligent leadership and security-oriented leadership are relatively modern leadership paradigms. The present study examined their effects on physical education (PE) teachers' job performance, emphasizing the mediating role of strategic thinking.

The first finding revealed that security-oriented leadership did not have a significant direct impact on job performance; however, it exerted an indirect effect through strategic thinking. This finding aligns with the studies of Bakhtiari and Zardashtian (2016), Sa'adati et al. (2014), and Jafari Harandi and Najafi (2017), but contrasts with the findings of Sepahvand and Nasiri (2016) and Reisner (2010). Bakhtiari and Zardashtian (2016) found that leadership styles significantly influence strategic thinking in the Departments of Sport and Youth in Kurdistan Province. Similarly, Sa'adati et al. (2014) demonstrated positive relationships between club-style and team-style leadership and strategic thinking among managers of governmental organizations in Kerman. Jafari Harandi and

Najafi (2017) also confirmed that leadership style is significantly associated with performance. In contrast, Nasiri and Sepahvand (2016) and Reisner (2010) reported that security-oriented leadership directly and positively influences job performance [24-28].

This inconsistency may be explained by the unique nature of PE teaching, which differs substantially from teaching in other academic fields. While many perceive PE teaching as easier, it is in fact more demanding, as PE teachers must simultaneously address affective, psychomotor, and cognitive learning domains. They also face numerous challenges such as lack of equipment, inadequate facilities, and environmental constraints (e.g., weather conditions, limited support). Consequently, a single leadership factor alone cannot improve job performance in such a complex setting. Thus, security-oriented leadership by itself cannot enhance PE teachers' job performance.

A security-oriented leader fosters organizational growth and innovation by creating a climate of trust, appreciation, and value recognition, and by encouraging exploration, development, and positive engagement [20]. Therefore, PE teachers are more likely to achieve success when they complement this leadership style with strategic thinking adopting a visionary perspective that combines security-oriented behaviors with strategic foresight. It is therefore recommended that the Ministry of Education design in-service training programs focused on leadership and strategic thinking to empower PE teachers to perform more effectively.

The second major finding revealed that intelligent leadership did not have a direct effect on job performance but exerted a negative indirect effect through strategic thinking. Intelligent leaders, guided by strategic thought, aim to recognize and utilize the unique strengths and talents of themselves and their colleagues to achieve collective goals (rational leadership). They cultivate self-awareness, emotional regulation, empathy, and social awareness (emotional leadership), act based on internalized ethical and moral principles rather than external pressures (spiritual leadership), and engage in leader–follower exchanges (collective leadership) [29].

PE teachers can apply intelligent leadership in combination with strategic thinking to enhance job performance. However, the negative relationship observed suggests that structural and contextual limitations particularly the lack of institutional support prevent these teachers from effectively exercising intelligent leadership. Therefore, the Ministry of Education should actively facilitate conditions that enable PE teachers to implement intelligent leadership practices.

To foster rational leadership, training workshops and developmental programs should be organized to promote self-actualization among PE teachers. Although academic and professional competitions have been introduced in recent years, their design and execution have not effectively promoted rational leadership. Hence, the Ministry's Department of Physical Education should not only continue supporting such initiatives but also revise their structure and delivery for greater impact.

Regarding emotional leadership, sustainable motivation cannot be expected without adequate moral and financial support. Extracurricular sports competitions such as the "Champion School" program have increased workload and expectations for PE teachers, who participate without any tangible incentives. This lack of support has contributed to declining job performance. Therefore, it is suggested that the Ministry provide financial and motivational packages for participating PE teachers.

In terms of spiritual leadership, organizational pressures combined with limited economic and emotional support pose major challenges. PE teachers continue to serve passionately despite numerous hardships. However, the absence of legal and administrative protection, such as formalized rights for participation in extracurricular sports events, creates job insecurity. Even the "Hamgam" system, recently introduced for student registration, lacks any legal or institutional mechanisms for protecting teachers' rights. Thus, it is recommended that the Ministry establish legal and policy-based support frameworks to enhance teachers' sense of security and facilitate the application of intelligent and strategic leadership principles.

Finally, improving collective leadership and leader–follower interaction requires reducing the deep communication gap between the educational administration and PE teachers. Two-way exchanges rarely occur, and most PE teachers experience minimal direct engagement with the organization throughout the academic year. To

bridge this gap, this study proposes monthly feedback sessions, online dialogue platforms, and structured consultation mechanisms.

In summary, to strengthen the impact of intelligent and security-oriented leadership styles particularly when integrated with strategic thinking on PE teachers' job performance, it is recommended that the Ministry of Education, especially the Department of Physical Education, implement comprehensive economic, social, cultural, and legal support programs, alongside professional development initiatives aimed at deepening teachers' understanding of these leadership concepts.

Transparency Statement

The data supporting this study are available upon reasonable request to the corresponding author, subject to ethical and confidentiality considerations.

Acknowledgments

We would like to express our gratitude to all individuals who contributed to this project.

Declaration of Interest

The authors declare that they have no competing interests.

Funding

This research received no specific grant from any funding agency, commercial, or not-for-profit sectors.

REFRENCESS

[1] Davies, B., & Davies, B. J. (2004). Strategic leadership. *School Leadership & Management, 24*(1), 29–38. https://doi.org/10.1080/1363243042000172804

[2] Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly, 44*(2), 350–383. https://doi.org/10.2307/2666999

[3] Bass, B. M. (1990). *Bass & Stogdill's handbook of leadership: Theory, research, and managerial applications* (3rd ed.). New York, NY: Free Press.

[4] Al-Husseini, S., & Elbeltagi, I. (2018). Evaluating the effect of transformational leadership on knowledge sharing using structural equation modelling: The case of Iraqi higher education. *International Journal of Leadership in Education, 21*(4), 506–517. https://doi.org/10.1080/13603124.2016.1142119

[5] Hair, J. F., Sarstedt, M., Pieper, T. M., & Ringle, C. M. (2012). The use of partial least squares structural equation modeling in strategic management research: A review of past practices and recommendations for future applications. *Long Range Planning, 45*(5–6), 320–340. https://doi.org/10.1016/j.lrp.2012.09.008

[6] Nasrollahi, M., & Ebrahimi, F. (2016). The relationship between intelligent leadership and strategic thinking among secondary school teachers. *Educational Management Quarterly, 8*(3), 45–62.

[7] Abbas, M., & Raja, U. (2015). Impact of intelligent leadership on strategic thinking in organizations. *Journal of Educational Management, 29*(2), 140–158.

[8] Nasrollahi, M., & Colleagues. (2016). The effect of leaders' cognitive intelligence components on employees' strategic thinking. *Educational Leadership Research, 5*(2), 23–40.

[9] Shiwa, H., & Lin, Y. (2017). Smart leadership and decision-making effectiveness in educational institutions.

International Journal of Leadership in Education, 20(4), 301–318.

[10] Karimi, S. (2015). The role of security-oriented leadership in creating trust and job security among teachers. *Educational Sciences Research Journal, 11*(1), 77–95.

[11] Ozturk, M., & Demir, H. (2016). Security-oriented leadership and teachers' job satisfaction. *Educational Research Review, 12*(5), 280–295.

[12] Mahmoudi, N., & Rostegar, F. (2017). The relationship between security-oriented leadership and job burnout among physical education teachers. *Sport Psychology Studies, 9*(2), 55–71.

[13] Farooq, R., & Sultana, A. (2016). Smart leadership and employee performance: The mediating role of psychological safety. *Leadership & Organization Development Journal, 37*(8), 1051–1067.

[14] Jafari, A. (2018). The impact of intelligent leadership on job performance with the mediating role of job security among teachers. *Educational Management, 10*(4), 120–138.

[15] Mintzberg, H. (2014). *The rise and fall of strategic planning.* New York, NY: Free Press.

[16] Rezaei, N. (2017). The role of strategic thinking in improving physical education teachers' performance. *Modern Research in Physical Education, 6*(3), 88–104.

[17] Rahmani, K., & Naderi, P. (2018). Structural equation modeling of the relationships among intelligent leadership, job security, and teachers' job performance. *Journal of Research in Educational Management, 9*(2), 45–63.

[18] Jalali, F. (2017). The mediating role of strategic thinking in the relationship between intelligent leadership and job innovation. *Quarterly Journal of Innovation and Education, 7*(1), 33–50.

[19] Chen, X., & Liu, Z. (2018). Structural equation modeling of smart leadership, job security, and teacher performance. *International Journal of Educational Research, 89*, 112–127.

[20] Coombe, D. (2011). *Secure base leadership: A positive theory of leadership incorporating safety, exploration and positive action* [Doctoral dissertation, Case Western Reserve University].

[21] Sydänmaanlakka, P. (2003). *Intelligent leadership and leadership competencies: Developing a leadership framework for intelligent organizations.*

[22] Liedtka, J. M. (1998). Strategic thinking: Can it be taught? *Long Range Planning, 31*(1), 120–129. https://doi.org/10.1016/S0024-6301(97)00098-8

[23] Patterson Jr., T. F. (1984). *A study to determine the relationship between rural New England extension agent educational orientation and job performance (performance appraisal, andragogy)* [Doctoral dissertation, Indiana University].

[24] Bakhtiari, S., & Zardashtian, Sh. (2016). The mediating role of strategic thinking in the relationship between leadership styles and organizational culture in the Departments of Sport and Youth in Kurdistan Province. *Organizational Behavior Management Studies in Sport, 3*(4), 23–34.

[25] Sa'adati, A. R., Siyadi, S., & Ahangari, Sh. (2014). Examining the relationship between different leadership styles and the level of strategic thinking among managers of public organizations in Kerman City. *Productivity Management Quarterly (Beyond Management), 7*(26), 69–91.

[26] Jafari Herandi, R., & Najafi, H. (2017). Transformational and transactional leadership styles and their

relationship with organizational performance. *Management Studies on Improvement and Transformation, 26*(85), 57–85.

[27] Nasiri, F. S., & Sepahvand, S. (2016). Correlation analysis between organizational identity and security-oriented leadership style with employees' job performance. *Journal of Human Resource Management Research, Imam Hossein Comprehensive University, 8*(4), 237–262.

[28] Reissner, S. C. (2010). Change meaning and identity at the workplace. *Journal of Organizational Change Management, 23*(3), 287–299. https://doi.org/10.1108/09534811011049617

[29] Keykha, A., Hoveyda, R., & Yaghobi, N. (2017). The effect of intelligent leadership on the educational performance of faculty members in public universities of Zahedan with the mediating role of critical thinking. *Public Management Researches, 10*(35), 61–83.