Acta Scientiarum

http://periodicos.uem.br/ojs
ISSN on-line: 1807-8648
Doi: 10.4025/actascihealthsci.v45i1.59107

Evaluation of the organizational innovation and self-efficiency levels of health workers

Vasfiye Bayram Değer[1*], Birgül Vural Doğru[2] and Nurgül Arslan[3]

[1]Faculty of Health Sciences, Mardin Artuklu University, Campus, 5 km, from Diyarbakir Road, 47000 Artuklu, Mardin, Turkey. [2]Department of Medical Nursing, Faculty of Nursing, Mersin University, Mersin, Mersin, Turkey. [3]Department of Nutrition and Dietetic, Faculty of Health Sciences, Malatya Turgut Ozal University, Malatya, Malatya, Turkey. *Author for correspondence. E-mail: vasfiyedeger9@gmail.com

ABSTRACT. The aim of this study was determine whether the personal features of the participants create a difference in terms of organizational innovation. This study was conducted with 1234 nurses and midwives. A multiple regression model was created to see and predict the effect on individuals' total innovative scores and self-efficacy scores. The total innovative and the self-efficacy score are predicted with multiple regression analyses. It was observed that the variable that most affected both the total innovative score and the self-efficacy score of the individuals was the education level of the individuals. The fact that midwives and nurses have a certain level of innovative and self-confidence is important for the society to receive better and faster health services. In this study, it was observed that the education level was important for the development of innovative and self-confidence in both groups.

Keywords: organizational innovation; midwives; nurses; self-efficacy behavior; health sector.

Received on May 6, 2021.
Accepted on November 5, 2021.

Introduction

Rapid advances in science and technology have influenced individuals, organizations and the world. These advances have also brought innovation and creativity to a higher level (Mormina, 2019). The word innovation is derived from the Latin word of 'innovatus' which means 'to do something new and different'. The International Council of Nurses (ICN) defines innovation in health as a process in which individual, organizational and social transformation into a viable and achievable outcome, such as health promotion, disease prevention and better quality patient care (Kimhi et al., 2016; Mormina, 2019). Innovation and creativity activities that must first begin at an individual level are among the indispensable elements in organizations consisting of people who come together to realize a specific purpose (Wang, An, Yasir, Mahmood, & Gu, 2021). The process of innovation varies according to sectors. The health sector is a large sector that includes private and public hospitals, practices, pharmaceutical and medical companies and thousands of businesses divided into a wide range of fields including biotechnology (Kieft, Brouwer, Francke, & Delnoij, 2014). Today, innovation regarding the presentation of products and services within the health sector aims to increase the life expectancy at birth, quality of life, diagnosis and treatment options, as well as the effectiveness and cost effectiveness of the health system. When the concept of innovation applied in hospitals is examined only from the perspective of incident/case management and disease management, it becomes insufficient in the context of the globalizing labor market and even enters into a deadlock. Because the services provided in hospitals must be examined not only as health services, but as an organization considering all the services provided in the hospital (Kimhi et al., 2016; Kim & Suh, 2018). Accordingly, the innovation realized in parallel with the change in today's maintenance process can be defined as process innovation and organizational innovation for many reasons. First of all, the differentiated and seperated work environment in hospitals has become an independent working environment that necessitates coordination, idea generation and knowledge transfer and requiring the integration of many disciplines (Kieft et al., 2014). In addition, the complexity of health services today, the increase in expectations in service areas, the need to adapt to rapidly developing technology and to access information, global competition and the increase in health care costs have made innovation in health disciplines compulsory (Tóth & Rizzo, 2020). Four types of innovation have been commonly defined in the literature, including organizational innovation, which is developing different methods of working and doing business or adapting existing methods to the conditions of the organization (Ayhan et al., 2012; Tóth & Rizzo, 2020). The aim of organizational innovation is to reduce

the costs of the organization, increase productivity and improve the job satisfaction and performance of employees. Examples of organizational innovation include forming both formal and informal work teams to facilitate the accessof information by different departments such as marketing, research and production, and improving information sharing, collaborating with research institutions and providing production from external sources (Rehman, 2017). Bandura however, described self-efficacy as the belief that one could successfully perform the desired behavior to achieve the desired result. Bandura conceptualized self-efficacy based on special conditions, whereas some researchers have described it more generally (Zhang et al., 2015). Cobb-Clark and Schurer considered general self-efficacy as a personality trait and described it as a relatively parental behavior, investments in education, and policy interventions, making personality change a possibility well into adulthood (Cobb-Clark & Schurer, 2012). A person's behavior may differ according to the expectations of output and activity, because even if individuals believe that certain activities will lead to certain outputs, if they have doubts about whether they will be able to perform the necessary activities, they may not be able to produce outputs. This is because self-efficacy expectations determine the first decision to make a behavior, the effort made, and the resistance against difficulties (Zhang et al., 2015; Fida, Laschinger, & Leiter, 2018). Therefore, the expectation of self-efficacy is the most important determinant of behavioral change, because it determines the internal decision and effort to put forward a behavior. Briefly, self-activity can be defined as a sum of all important successes and failures attributed to it (Fida et al., 2018).

Health sector innovations and developments directly affect human life and quality of life. Determining the importance of organization among nurses and midwives, who are a large part of the health sector, determining their awareness on the subject and examining the current situation in their institutions constitute the main aims of the present study. Examining whether the personal features of the participants create a difference in terms of organizational innovation was another aim of the present study.

Material and methods

Sample of the study and screening tools

The population of the study consisted of nurses and midwives who work in public hospitals. This study was conducted between May and August 2019. In the study, no sample calculation was made, thus, all of the nurses and midwives who met the criteria of the study and voluntarily agreed to participate in the study were intended to be reached, however, consequently only 1234 individuals who agreed to participate in the study were reached. This study conducted to Helsinki decleration of criteria. The decision of the ethics committee of the study was taken from the Mardin Artuklu University Ethics Committee of Non-Invasive Researches (number 34233153-050.06.04-).

The data were collected by informing the nurses and midwives who agreed to participate in the study and after obtaining their consent,asking them to complete aquestionnaire. The questionnaire consisted of three sections: (I) the Individual Information Form to determine the socio-demographic characteristics of the participants, (II) the Organizational Innovation Scale evalution the participants' attitudes towards innovation, and (III) the Self-efficacy Scale to determine the personality features of the participants. The questionnaire took approximately 20 minutes to complete.

Organizational innovation scale

Organizational innovation scale was developed by Ismail, Belli, Sohn, and Toussaint (2002).Participants were asked to evaluate the statements given on a five-point likert scale ranging from 'disagree' to 'strongly agree'. In this study, a 3-factor scale consisting of 'innovative behavior tendency', 'innovation/environment' and 'innovation/personal' was used.

Self-efficacy scale

Self-Efficacy Scale was developed in 1982 by Sherer and collaborators to measure general self-efficacy that is not specific to a particular situation or behavior (Sherer et al., 1982). The adaptation of the scale to Turkish was made in 1999 by Gözüm who named the concept 'Self-Efficacy/Competence'(Gözüm, 1999). Consequently, a 3-factor structure consisting of 'Hardihood Towards Challenges and Struggling', 'Starting/completing a Job' and 'Social Activity' emerged. The scores that can be obtained from the scale vary between 19 and 95+ the high scores indicate 'high self-efficacy' (Kim & Suh, 2018).

Statistical analysis

The data obtained were uploaded to the computer environment and evaluated through a statistical package program SPSS (software version 22, IBM, USA).All results are expressed as means±SD, except where standard deviations are specified. In the descriptive statistics of the variables included in the study, arithmetic means, standard deviation, frequency and percentage were used. The normal distribution of total innovation and self efficacy score was tested with the Kolmogorov Smirnov test ($p > 0.05$). The paired parametric t-test was used to compare the normal distribution variables. Multiple regression analysis was performed to estimate the total innovation and specific efficiency score. Data were checked for compliance with multiple regression analysis before analysis. dependent variables were made available for multiple regression analysis. The education level, which has 4 categories within itself, has been reduced to two categories. This way it was added to the model.

Results

The mean age of the health personnel who participated in the study (n=1234) was 28.81±6.53 years (min: 18, max: 58). Exactly 70.1% of the participants lived in the city center, while 29.1% lived in the district and 0.9% lived in a town.The rate of those who heard about the concept of organizational innovation was 35.0% (n=432), while the rate of those who had no knowledge on the concept was 65.0% (n=802). The majority of the participants, namely 8.9%, expressed that they had heard about the concept of organizational innovation from in-service training, 6.3% from school, 4.7% from conferences, 3.8% from radio/tv, 3.4% from books, 2.9% from scientific journals, 1.7% from courses, 1.3% from newspapers, 1.0% from radio/tv/newspaper/scientific journals, etc., and 1.0% from in-service trainings.

While 50.9% of the health personnel participating in the study had no ideas regarding the definition of innovation, 49.1% of them defined it with the terms innovator, innovation, professional innovation or as adoption of organizational development and changes, solving problems or developing new ideas in order to make things better and producing new ideas. Exactly 57.7% of the participants found organizational innovation useful, 6.0% gave a negative answer and 36.3% had no opinion at all. While 42.3% of the participants who thought that organizational innovation was beneficial did not know the reason for this, 13.7% stated that the organizational approach brings innovation, enables quick and easy problem solving and provides economic savings where high cost technological tools are required 12.4% stated that the organizational approach facilitated innovation, 26.0% stated that the organizational approach helped to adapt to technological innovations and ensure performance improvement and 5.6% stated that the organizational approach provided innovation and quick and easy ways to solve problems.

When the total years of experience of the health personnel participating in the study was examined, it was seen that more than half (53.4%) has worked between 1-5 years. In addition, more than half (70.1%) of the individuals who participated in the study were reported to care for an avarage of 0-49 patients a day (Table 1).

Table 1. Distribution of the health personnel that participated in the study according to total years of experience average number of patients cared for daily and average hours worked in a week

Total Years of Experience	Number (%)
1-5 Years	659 (53.4)
6-10 Years	364 (29.5)
11-15 Years	100 (8.1)
16-20 Years	37 (3.0)
20 Years	74 (6.0)
Total	1234 (100.0)
Average number of patients cared for daily	
0-49	865 (70.1)
50-99	221 (17.9)
100 and above	148 (12.0)
Total	1234 (100.0)
Average hours worked in a week	
0-40	496 (40.2)
41-56	517 (41.9)
57 and above	221 (17.9)
Total	1234 (100.0)

According to Table 2, the mean score of the individuals for the Organizational Innovation Scale was found as 83.05±11.68 and the mean score of the individuals for the Self-Efficacy scale was found as 50.11±8.44.

The effect of the innovative behavior tendency sub-dimension and the start-up and struggle with difficulties sub-dimension on one another and the effect of innovative environment tendency and start-up sub-dimension on one another were found to be statistically significant (p <0.005). It was found that the individuals who showed organizational innovation behavior tendency had a positive correlation with starting/completing a job, and struggling with difficulties which are self-efficacy subscales, and this correlation was found to be statistically significant (p <0.05) (Table 3).

It was found that there was a positive correlation between the total score of starting/completing a job and organizational innovation which were the sub-dimension of the Self-Efficacy Scale. This correlation was statistically significant (p <0.05).

Table 2. Means of the total scores obtained by the health personnel that participated in the studyfrom the Organizational Innovation and Self Efficacy Scales.

Sub-dimensions of the Organizational Innovation Scale	Minimum	Maksimum	$\bar{X}$	Ss
Innovative behavior tendency	15.00	60.00	42.81	7.06
Innovative environment	8.00	39.00	25.98	4.64
Innovative personality factors	6.00	25.00	14.25	2.80
Total Organizational Innovation Point	34.00	115.00	83.05	11.68
Subscales of the Self-Efficacy Scale				
Starting/completing a job	10.00	31.00	22.29	3.61
Struggle against difficulties	8.00	38.00	17.10	6.60
Social Activity	4.00	20.00	10.71	2.69
Total Self efficacy score	31.00	78.00	50.11	8.44

Table 3. Correlations between the organizational innovation scale sub-dimensions and the self-efficacy scale sub-dimension scores

Variables	Starting/completing a job		Struggle against difficulties		Social activity		Total Score of Self Efficacy	
	r	p	r	p	r	p	r	p
Organizational Innovative *Behavior Tendency	0.273	0.000	0.252	0.000	0.050	0.449	0.265	0.019
Organizational Innovative *Environmental Tendency	0.201	0.002	0.420	0.066	0.470	0.075	0.013	0.847
Organizational innovative *Personal factors	0.550	0.009	0.333	0.041	0.770	0.039	0.693	0.026
Total Score of Organizational Innovation	0.235	0.000	0.165	0.012	0.015	0.093	0.783	0.001

*sub dimensions scale

Multiple linear regression analysis was performed to estimate the total innovation scores of occupation, educational status, working time a weekly, age, and allocated time for research a weekly. Occupation, educational status, weekly working hours, age and allocated time for research a weekly are significant predictors of the total innovation score. In this model, it explains 58% of the variance of the innovation score with 5 variables. The variables of education level, working time a weekly, age and allocated time for research a weekly separately predict the total innovation score (p <0.05). It was determined that the most important predictor of the total innovation score was the education level of the individuals (β=,465) (Table 4).

Table 4. Multiple linear regression analysis results for estimating total innovation scores; occupation, educational status, working time a weekly, age and time allocated for weekly research.

Model 1	B	Se	B	T	p	R^2	F	p
Constant						0.589	20.190	.030
Occupation	-1.333	1.772	-.057	-.752	.453			
Educational status	4.123	1.804	.465	2.285	.023			
Working time a weekly	-.066	1.661	-.363	-.039	.001			
Age	-.340	.249	-.290	-1.361	.021			
Allocated time for research a weekly	.482	.261	.322	1.849	.026			

Multiple linear regression analysis was performed to estimate the total self-efficacy points of occupation, educational status, working time a weekly, age, and allocated time for research a weekly. Occupation, educational status, weekly working hours, age and allocated time for research a weekly are significant predictors of the total self-efficacy points. In this model, it explains 67% of the variance of the total self-efficacy points with 5 variables. The variables of education level, age and occupational are separately predict the total self-efficacy points ($p < 0.05$). It was determined that the most important predictor of the total self-efficacy points was the education level of the individuals ($\beta = .344$) (Table 5).

Table 5. Multiple linear regression analysis results for estimating total self-efficacy points; occupation, educational status, working time a weekly, age and time allocated for weekly research.

Model 1	B	Se	β	t	p	R^2	F	p
Occupation	3.698	1.250	.219	2.959	.003	0.669	30.080	.001
Educational status	-.797	1.228	.344	-.649	.007			
Working time a weekly	-.946	1.184	-.055	-.799	.425			
Age	.040	.088	.231	.452	.002			
Allocated time for research a weekly	-.148	.189	-.052	-.786	.433			

Discussion

Innovation is very important in terms of health care services and directly affects the improvement of the quality of life, the decrease in costs and the increase in productivity and job satisfaction. For this reason, nurses and midwives, who are important members of health care services, must themselves to the rapid changes and developments in the field of health and technology and constantly renew themselves and make innovation a part of their behavior (Weng, Chen, Huang, Hung, & Hsu, 2016; White, Pillay, & Huang, 2016). It is known that innovative behavior is affected by individual factors as well as organizational factors. Strengthening individual characteristics such as competence and autonomy, providing opportunities such as resources, support and communication to individuals in the organization with colleagues, superiors and other employees, and connections outside the organization affect the innovative behaviors of health professionals(McSherry & Douglas, 2011; Sönmez & Yıldırım, 2014). In this sense, the findings of the present study revealed the organizational adaptation of nurses and midwives in Turkey and whether self-efficacy levels make a difference in terms of organizational innovation. As result of the literature review, only one study was found that had been conducted in Turkey about organizational innovation. As there were no other studies evaluating the levels of organizational innovation and self-efficacy, the findings of the present study were discussed with limited studies and general information about organizational innovation.

While 49.1% of the participating nurses and midwives defined innovation as novelty, adoption of organizational development and changes, solving problems or improving the current situation and producing new ideas, 50.9% stated that they did not know about this concept. Similar to the present study,found that 45.7% of nursing and midwifery students defined innovation as novelty. In another study conducted by Sonmez and Yıldırım, half of the participating nurses evaluated themselves as “agents implementing innovation”, and the other half as “agents commencing innovation and applying innovation” (Sönmez & Yıldırım, 2014; Kennedy, Murphy, Misener, & Alder, 2015). In the present study, 57.7% of the nurses and midwives stated that they found organizational innovation useful. Similar results were found in the studies conducted by Özcan, Gökçearslan, and Solmaz (2016). On the other hand, Durrah and collaborators found that the majority of students did not consider innovation in nursing care necessary (Kennedy et al., 2015; Durrah, Chaudhary, & Gharib, 2019).

The present study found that starting/completing a job, which was one of the sub-dimensions of the Self-EfficacyScale, affected the tendency of the innovative behavior of the nurses and midwives. While individuals with high starting/completing a job points were expected to show more innovative behavior tendency, the study found that they showed less innovative behavior tendency. When the literature was examined, it was observed that organizational innovative behavior tendency is negatively affected by many factors, especially by constraints such as lack of workload, time, space and resources, inadequate organizational support, power hierarchies and lack of mentorship that cause individuals to feel constantly under pressure and loss of motivation (Sönmez & Yıldırım, 2014; McKee, Codd, Dempsey, Gallagher, & Comiskey, 2017; Tuğrul& Denat, 2019). In the present study, it was thought that the fact that the majority of the nurses and midwives worked more than 40 hours a week and that this work load led to lack of time, desire and energy to start and complete a new job. Consequently, this affected the tendency of innovative behavior in a negative manner.

In this study, it was found that the nurses and midwives with high levels of innovative behavior and environmental tendency, namely communication levels, had higher levels regarding struggle with difficulties and their effect on each other was significant. The total score obtained from the Self-Efficacy Scale was found to be higher in the individuals who obtained a high total score from the Organizational Innovation Scale, however their effect on each other was not significant(Kennedy et al., 2015; Zhang et al., 2015; Kim & Suh, 2018). On the other hand, innovative personal factors were not affected by any of the sub scales of the Self-Efficacy Scale. It is stated in the literature that individuals with a strong self-efficacy perception tend to engage in more challenging tasks and try to achieve their goals by setting greater goals. Individuals with high self-efficacy make more of an effort and spend more time making an effort than those with low self-efficacy. Individuals with strong self-efficacy continue their efforts to recover more quickly when they encounter any problems (Newman, Obschonka, Schwarz, Cohen, & Nielsen, 2019). In the present study, in line with the literature, it was found that individuals with high levels of struggle against difficulties showed higher communication levels and innovative behavior tendency.

It was also seen that the sub-dimensions of starting-completing a job and combating difficulties positively correlated with innovative behavior tendency. There wasa positive correlation between starting-completing a job and the total score of innovative/environmental tendency and organizational innovation, tackling difficulties, and total score of innovative personal factors and organizational innovation. However, no correlation was found between the total score obtained from the Self-Efficacy Scale and the total score obtained from the Organizational Innovation Scale. Self-efficacy includes various elements such as the planning of an action, awareness and organization of skills, review of achievements as well as difficulties and the resulting motivation level. It has been suggested that high levels of self-efficacy contribute to the learning process in cognitive, behavioral and motivational terms and are important for mobilizing skills (Rambod, Sharif, & Khademian, 2018; Newman et al., 2019). Accordingly, the tendency of innovative thinking, taking action and innovative behavior increased too.

Conclusion

In this study, the organizational innovation and self-efficacy levels of nurses and midwives and the mutual effects that the scales had on each other were evaluated. When the organizational innovation tendencies of the nurses and midwives were taken into consideration, it was found that as the level of innovative behavior and environmental tendency, namely, their communication levels, increased so did their level of struggle against difficulties. Those with a high tendency for innovative behavior were more likely to start and complete a job than those with a low tendency.

References

Ayhan, D. E., Günaydın, E., Gönlüaçık, E., Arslan, U., Çetinkaya, F., Asımı, H., & Uncu, Y. (2012). The characteristics and related factors of the students' of uludag university medical faculty. *Uludağ Üniversitesi Tıp Fakültesi Dergisi, 38*(2), 97-104.

Cobb-Clark, D. A., & Schurer, S. (2012). The stability of big-five personality traits. *Economics Letters, 115*(1), 11-15. DOI: https://doi.org/10.1016/j.econlet.2011.11.015

Durrah, O., Chaudhary, M., & Gharib, M. (2019). Organizational cynicism and its impact on organizational pride in industrial organizations. *International Journal of Environmental Research and Public Health, 16*(7), 1203. DOI: https://doi.org/10.3390/ijerph16071203

Fida, R., Laschinger, H. K. S., & Leiter, M. P. (2018). The protective role of self-efficacy against workplace incivility and burnout in nursing: a time-lagged study. *Health Care Management Review, 43*(1), 21-29. DOI: https://doi.org/10.1097/HMR.0000000000000126

Gözüm, S. (1999). Construct validation of Turkish form of the self• efficacy scale; the relationship between self efficacy perception of cope with stress. *Journal of Anatolia Nursing and Health Sciences, 2*(1), 35-43.

Ismail, A. I., Belli, R. F., Sohn, W., & Toussaint, L. (2002). Internal consistency and reliability of a questionnaire assessing organizational innovation in two schools of dentistry. *Journal of Dental Education, 66*(4), 469-477.

Kennedy, E., Murphy, G. T., Misener, R. M., & Alder, R. (2015). Development and psychometric assessment of the nursing competence self-efficacy scale. *Journal of Nursing Education, 54*(10), 550-558. DOİ: https://doi.org/10.3928/01484834-20150916-0

Kieft, R. A., Brouwer, B. B., Francke, A. L., & Delnoij, D. M. (2014). How nurses and their work environment affect patient experiences of the quality of care: a qualitative study. *BMC Health Services Research, 14*(1), 1-10. DOI: https://doi.org/10.1186/1472-6963-14-249

Kim, H., & Suh, E. E. (2018). The effects of an interactive nursing skills mobile application on nursing students' knowledge, self-efficacy, and skills performance: a randomized controlled trial. *Asian Nursing Research, 12*(1), 17-25. DOI: https://doi.org/10.1016/j.anr.2018.01.001

Kimhi, E., Reishtein, J. L., Cohen, M., Friger, M., Hurvitz, N., & Avraham, R. (2016). Impact of simulation and clinical experience on self-efficacy in nursing students: Intervention study. *Nurse Educator, 41*(1), E1-E4. DOİ: https://doi.org/10.1097/NNE.0000000000000194

McKee, G., Codd, M., Dempsey, O., Gallagher, P., & Comiskey, C. (2017). Describing the implementation of an innovative intervention and evaluating its effectiveness in increasing research capacity of advanced clinical nurses: using the consolidated framework for implementation research. *BMC Nursing, 16*(1), 1-13. DOI: https://doi.org/10.1186/s12912-017-0214-6

McSherry, R., & Douglas, M. (2011). Innovation in nursing practice: a means to tackling the global challenges facing nurses, midwives and nurse leaders and managers in the future. *Journal of Nurcing Management, 19*(2), 165-169. DOI: https://doi.org/10.1111/j.1365-2834.2011.01241.x

Mormina, M. (2019). Science, technology and innovation as social goods for development: rethinking research capacity building from sen's capabilities approach. *Science and Engineering Ethics, 25*(3), 671-692. DOI: https://doi.org/10.1007/s11948-018-0037-1

Newman, A., Obschonka, M., Schwarz, S., Cohen, M., & Nielsen, I. (2019). Entrepreneurial self-efficacy: a systematic review of the literature on its theoretical foundations, measurement, antecedents, and outcomes, and an agenda for future research. *Journal of Vocational Behavior, 110*(Part B), 403-419. DOI: https://doi.org/10.1016/j.jvb.2018.05.012

Özcan, S., Gökçearslan, S., & Solmaz, E. (2016). Investigation into attitudes of pre-service teachers towards e-learning with respect to their ındividual ınnovativeness levels. *Journal of Educatıonal and Instructıonal Studıes ın the World, 6*(2), 31-38.

Rambod, M., Sharif, F., & Khademian, Z. (2018). The impact of the preceptorship program on self-efficacy and learning outcomes in nursing students. *Iranian Journal of Nursing and Midwifery Research, 23*(6), 444-449. DOİ: https://doi.org/10.4103/ijnmr.IJNMR_67_17

Rehman, N. U. (2017). a complementary relationship between networks and organizational ınnovation activities: evidence from Chile. *Journal of Innovation Economics & Management, 23*(2), 83-106.

Sherer, M., Maddux, J. E., Mercandante, B., Prentice-Dunn, S., Jacobs, B., & Rogers, R. W. (1982). The self-efficacy scale: construction and validation. *Psychological Reports, 51*(2), 663-671. Sönmez, B., & Yıldırım, A. (2014). Determination of nurses' ınnovative behaviour and their views about the factors affecting their ınnovative behaviour: a qualitative study in a university hospital. *Journal of Health and Nursing Management, 1*(2), 49-59. DOİ: https://doi.org/10.5222/shyd.2014.049

Tóth, J., & Rizzo, G. (2020). Search strategies in innovation networks: the Case of the hungarian food industry. *Sustainability, 12*(5), 1752. DOI: https://doi.org/10.3390/su12051752

Tuğrul, E., & Denat, Y. (2019). Proje tabanlı öğretimin öğrencilerin yaşam boyu öğrenme eğilimleri ve öz etkililik-öz yeterlik algısına etkisi. *Turkiye Klinikleri Hemsirelik Bilimleri, 11*(3), 2173-280. DOİ: https://doi.org/10.5336/nurses.2018-63781

Wang, X., An, L., Yasir, N., Mahmood, N., & Gu, Y. (2021). Empirical study on the relationship between effective following behavior and derived creative work behavior: a moderating role of perceived organizational support and sustainable leadership. *Sustainability, 13*(10), 5693. DOI: https://doi.org/10.3390/su13105693

Weng, R. H., Chen, W. P., Huang, C. Y., Hung, C. H., & Hsu, C. T. (2016). Can nurse innovation improve customer perception of service quality and experience? *Journal of Clinical Nursing, 25*(13-14), 1950-1961. DOI: https://doi.org/10.1111/jocn.13214

White, K. R., Pillay, R., & Huang, X. (2016). Nurse leaders and the innovation competence gap. *Nursing Outlook, 64*(3), 255-261. DOİ: https://doi.org/10.1016/j.outlook.2015.12.007

Zhang, Z.-J., Zhang, C.-L., Zhang, X.-G., Liu, X.-M., Zhang, H., Wang, J., & Liu, S. (2015). Relationship between self-efficacy beliefs and achievement motivation in student nurses. *Chinese Nursing Research, 2*(2-3), 67-70. DOI: https://doi.org/10.1016/j.cnre.2015.06.001