

Contents lists available at Sjournals

Scientific Journal of
Pure and Applied Sciences

Journal homepage: www.Sjournals.com

**Original article****Creativity and effective factors on hospital nurses creativity**

M. Ahbabi Tabarestani^{a,*}, F. Atashzadeh Shoorideh^b, M.A. Jahani^c, M. Nasrin Poor^d, H. Alavi Majd^e

^aMS in Nursing, Babol University of Medical Sciences Babol, Iran.

^bPhD in Nursing, Associate Professor of Nursing, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

^cPhD in health services management, Babol University of Medical Sciences, Babol, Iran.

^dShafizadeh Children's Hospital nursing director, mShahid Beheshti University of Medical Sciences, Babol, Iran.

^eBiostatistics PhD, Associate Professor, School of Shahid Beheshti University of Medical Sciences, Tehran, Iran.

*Corresponding author; MS in Nursing, Babol University of Medical Sciences Babol, Iran.

ARTICLE INFO**ABSTRACT***Article history,*

Received 21 July 2014

Accepted 22 August 2014

Available online 29 August 2014

Keywords,

Creativity

Nurse

Pediatric

Creativity in people is one of the most important issue to provide better solutions to problems, create opportunities and better use of them, increase cooperation and responses to changing environments and the various factors effect on it. Therefore, this study was designed to investigate the creativity and the factors influencing on nurses at Shafizadeh Children's Hospital at 2012. This study is an applied investigation that has been prepared as descriptive - correlation. Sampling method is as full number, including 114 registered nurses at Shafizadeh Children's Hospital in Babol, finally 102 questionnaires were returned and data was collected by "demographics" and "creativity pediatric nurses' research. Questionnaire validity was in content and appearance validity method. The reliability was performed as internal consistency and stability method. After entering data to SPSS, it was analyzed by the related tests. The creativity of nurses is 64 percent, the highest creativity (73.5%) is relevant to solve problems in collaboration with others (fluency) and the highest medium creative (82.4%) is relevant to prepare a list of ways to communicate (Initiative). The highest rate of low creativity (61.8%) is for ease of report writing in nursing

(expansion). The highest creativity is related to fluency (70 %) and the lowest is in areas of expansion and innovation (50 %). Factors such as marital status and number of children in care are basic steps to keep the nurses creativity that with promotion of creative innovations, appropriate factors should be applied.

© 2014 Sjournals. All rights reserved.

1. Introduction

Nowadays, with the development of features in some people, organization development can be provided (1). Among these, innovation is an important foundation for the development of each organization required, to fulfill creativity, the necessary conditions should be provided and the leading obstacles should be overcome(2). Creativity is a process that uses different skills, tools and references to express different ideas(3). Also, in order to design a future that we can continue to work on it, creativity is essential. The new approach gives everyone an opportunity to be creative and provides a framework to work with others (4). Xu and Rickards thoughts creativity is a process that the persons and groups express their ideas to other groups in the society(5). Creativity is not only changing but also shows the creativity of values and can mean a new value, new services, new methods and similar ways(6). Innovation and creativity improve mental health, increase employee motivation, work organization, emergence of movement in organizations and improve organization productivity (2). Therefore, understanding the factors influencing on innovation and creativity in organization can help to strengthen them and provide a suitable bed for organization excellence (7). Torrance expresses creativity as combine four main factors of fluency (talent of creating great ideas), elaboration (talent of attention to detail), originality (ability to produce new and unusual ideas) and flexibility (ability to produce very different ideas or methods).

There are various factors that affect the creativity like environmental factors. So that there is a positive relationship between environment lively and friendly, open and independent innovation methods, but in closed environments, this relationship is negative (8).

However, factors such as confidence and dynamics can lead creativity and innovation, and its opposite, factors such as distance measurement, apathy and lack of job commitment, emphasizing on production and interruptions decrease employee motivation for creativity and innovation and thereby employees do not attempt to demonstrate creativity and innovation (8,9).

Today, healthcare organizations also need to have creativity and innovation. Nurses should think creatively in a risk position. Creative nursing offers better clinical practice in all aspects of care from patient, family and community (10).

Sabzi et al (2007) states that: "Creativity is very important in nursing and nursing using nurses' innovation, we can try to remove the child frightening and cooperate in the implementation of therapies." Using creativity in performing therapy by a nurse leads a child suffers less but also get good feedback from the patient and his family and to facilitate the growth of professional nurses(11). However, due to the many factors that can contribute to the creativity, the researcher examined the impact of various factors on creativity at Shafizadeh Children's Hospital in Babol in 2012.

2. Materials and methods

This study is an applied investigation that has been prepared as descriptive – correlation in 2012. The study population is consisted of all nurses at Shafizadeh Children's Hospital in Babol (114 cases) in 2012, which "a questionnaire for demographic characteristics" (11 questions about personal characteristics of nurses) and "creative nurse questionnaire in children department"(20 questions) in four areas of fluency, elaboration, innovation, flexibility have been collected and distributed between different departments and shifts of nurses.

In this study, to determine face validity, content validity index was used for determining the validity of the method. To evaluate the face validity and content validity, the questionnaire was analyzed by a group of professionals and faculty members, nursing, psychology and clinical nurses to be clear, simple and relevant

questions in content and the comments were applied after judgment and review. To assess two questionnaires, the reliability and stability of internal consistency with Cronbach's alpha was used to test-retest interval of two weeks. Cronbach's alpha of Creativity was $\alpha=0.79$. Reliability coefficient was $r=0.80$ by re-test of the questionnaire Creativity. Data after entering SPSS software was analyzed at a significance level of $P \leq 0.05$.

3. Findings

The cross - correlation study was done by 102 nurses in Shafizadeh Children's Hospital and accordance with Table 1 it shows 82.4% of these people are married, and 17.6 % are single and more nurses (38.3 %) are formally hired and lowest nurses (15.7 %) are working on a contract basis. 70.6 % of nurses are required overtime. Also, most nurses (81.4 %) are interested in the nursing field and in each shift, 65.7% of nurses care for 6-10 children. Also, according to Table 2, the highest level of creativity of nurses (73.5%) is related to solve problem in collaboration with others. The highest level in medium creativity (82.4%) is related for the preparation of a list of ways to communicate.

Table 1
nurse demographics status in Shafizadeh Children's Hospital in Babol in 2012

Profile	Status	Number	Percentage
age	20-25	17	16.7
	26-30	22	21.6
	31-35	30	29.4
	36-40	26	25.5
	41-45	7	6.8
Marital Status	single	18	17.6
	Married	84	82.4
Education	Resource	1	1.0
	Bachelor	95	93.1
	Graduate student	4	3.9
	Masters	2	2.0
Employment Type	Official	39	38.3
	Contractual	29	28.4
	Contract	16	15.7
	Plan	18	17.6
Experience in pediatric	1-5	41	40.2
	6-10	33	32.4
	11-15	20	19.6
	16-20	8	7.8
Shift	Fixed Morning	3	2.9
	Morning and Evening	3	2.9
	Rotatory	96	94.1
Number of children in care	0-5	19	18.6
	6-10	67	65.7
	11-15	16	15.7
Average hours worked per week	Less than 45 hours	47	46.1
	More than 45 hours	55	53.9
Mandatory overtime	yes	72	70.6
	no	30	29.4
The amount of mandatory overtime	Less than 10 hours	62	60.8
	More than 10 hours	40	39.2
Interest in Nursing	Yes	83	81.2
	No	19	18.6

Table 2
Distribution of areas of creativity in nurses in Shafizadeh Children's Hospital in Babol in 2012.

row	Expressions	High Creativity		Medium Creative		low Creativity	
		Number	Percent	Number	Percent	Number	Percent
Fluency							
1	Coping with the loss of important pieces	71	69.6	31	30.4	-	-
2	Enjoy the difficult issues	54	52.9	41	40.2	7	6.9
3	Problem solving in collaboration with	75	63.5	26	25.5	1	1.0
4	Face to face with new problems	65	63.7	37	36.3	-	-
5	Face to face with unusual issues	7	6.9	81	79.4	14	13.7
Elaboration							
6	Use words to describe the content	55	53.9	44	43.2	3	2.9
7	Expression of Nursing Diagnosis	15	14.7	83	81.4	4	3.9
8	The use of unusual materials	19	18.6	81	79.4	2	2.0
9	Ease of writing, commentary or criticism	17	16.7	22	21.5	63	61.8
10	Provide a new method of patient education	25	24.5	71	69.6	6	5.9
Originality							
11	Prepare a list of communication	10	9.8	84	82.4	8	7.8
12	Enjoy new levels of	62	60.8	37	36.3	3	2.9
13	How to persuade parents	18	17.6	77	75.5	7	6.9
14	Type what you like (with a little ingenuity, initiative)	20	19.6	57	55.9	25	24.5
15	Difficult to justify the amount of abnormal child behavior	37	36.3	56	54.9	9	8.8
Flexibility							
16	Given the amount of unwanted events	42	41.2	59	57.8	1	1.0
17	Attention to the details of the child's favorite	63	61.8	35	34.5	4	3.9
18	Considering the amount of content topics	63	61.8	35	34.3	4	3.9
19	Nursing-related content included in your text	15	14.7	49	48.0	38	27.3
20	Visualize the amount of time nurses spent time reading Nursing	44	43.1	50	49.0	8	7.9

Table 3
Frequency and Evaluation of areas of nurses' creativity in Shafizadeh Children's Hospital in Babol in 2012.

expression	Percentage	Erea of creativity	Erea percentage
Creativity	64	Fluency	70
		Elaboration	50
		Originality	50
		Flexibility	60

The highest rate in low in creativity (61.8%) is for the ease of writing nursing report. In Table 3, the highest level of nurse's creativity (70%) is in fluency and the lowest 50 % is related to elaboration and creativity there is more correlation between the areas of fluency and originality and the rate of innovation in the nurses of this hospital is 64%(Table 4). there was a significant inverse correlation between creativity and the number of children in care ($r=-2/0$, $p=-0/002$), but there is a direct correlation between creativity with marital status and single people are more creative ($t=1/7$, $p=0/02$) but there is no relation between creativity with factors such as type of employment, interest in nursing and mandatory overtime ($p> 0/05$) (Table 5 and 6).

Table 4

Correlation coefficient between the areas of creativity in Nurses Shafizadeh Children's Hospital in Babol in 2012.

Areas of creativity	The correlation coefficient	Fluency	Elaboration	Originality	Flexibility
Fluency	The correlation coefficient	0.45	0.14	0.45	0.40
	Significant	0.000	0.07	0.000	0.000
Elaboration	The correlation coefficient	0.14	1	0.43	0.42
	Significant	0.07	0.000	0.000	0.000
Originality	The correlation coefficient	0.45	0.43	1	0.40
	Significant	0.000	0.000	0.000	0.000
Flexibility	The correlation coefficient	0.40	0.42	0.40	1
	Significant	0.00	0.000	0.000	0.000

Table 5

Correlation between mean creativity with marital status, type of employment, overtime and interest in nursing in Shafizadeh Children's Hospital in Babol in 2012.

Creativity	Variable	Groups	Number	Average	Standard deviation	Confidence interval		Significance level
						Minimum	maximum	
	Marital Status	Single	18	67.3	53	0.5	7.4	P =0.02
		Single	84	63	10.9			
	Employment Type	Official	39	63.8	12.4	50.8	67.2	P=0.91
		Contractua	29	64.6	8.9	61.2	68	
		Contract	16	65	8.8	60.2	69.7	
		Plan	18	62.7	9	58.2	67.2	
		Total	102	64	10.3	62	66	
	Mandatory overtime	yes	72	64.1	9.2	-4.2	4.6	P=0.9
		no	30	63.9	12.7			
	Interest in Nursing	yes	83	64.5	9.9	-2.7	7.6	P=0.3
		no	19	62.1	11.7			

4. Discussion

In general it can be stated that creativity in nurses is 64 %, the highest level of creativity of nurses (73.5%) is related to solve problem in collaboration with others. The highest level in medium creativity (82.4%) is related for the preparation of a list of ways to communicate. The highest rate in low in creativity (61.8%) is for the ease of writing nursing report. the highest level of nurse's creativity (70%) is in fluency and the lowest 50 % is related to elaboration and creativity there is more correlation between the areas of fluency and originality.

In the research by Ahmadian et al (2012) nurses' creativity is 57.1% which is quite desirable (12). Daemi and Barforoosh (2004) in their study concluded that greatest amount of creativity (85 percent) is related to fluency; medium creativity highest rate (84 %) is related the flexibility and the lowest (80%) is related to the expansion (13). In research by Shams et al (2011) there is a significant correlation between each of the areas of creativity (originality, fluency, elaboration and flexibility). The findings show that all creativity parameters have a significant correlation and there is more correlation between the areas of creativity, innovation and solidarity. This is perhaps

due to the nature of work in the children's section. Because creating great and new ideas is felt in the children more than ever and nurses should use these two innovations more. The findings of the present study differs from other studies may be due to the difference between the society of current study and research because the nature of children nursing is different from the nursing care of adults. In order to gain the cooperation of children in care and treatment procedures, more creativity is needed.

Table 6

Correlation coefficient between demographics quantitative variables and Creative nurses in Children's Hospital nurse Shafizadeh 2002.

Variables	The correlation coefficient	Age	Experience	Number of children in care	Working hours per week	Creativity
Age	The correlation coefficient	1	0.58	0.03	-0.15	0.14
	Significant	0.000	0.000	0.71	0.11	0.14
Experience	The correlation coefficient	0.58	1	-0.16	-0.13	0.007
	Significant	0.000	0.000	0.10	0.19	0.94
Number of children in care	The correlation coefficient	0.03	-0.16	1	0.29	-0.29
	Significant	0.71	0.10	0.000	0.003	0.002
Working hours per week	The correlation coefficient	-0.15	-0.13	0.29	1	0.15
	Significant	0.11	0.19	0.003	0.000	0.11
Creativity	The correlation coefficient	-0.14	-0.007	-0.29	0.15	1
	Significant	0.14	0.94	0.002	0.11	0.000

According to demographic studies and creativity in current research, findings show that there is a correlation between marital status and creativity. So that creativity is more in single over the married. These findings are consistent with prior research findings by Nekooi and colleagues (2010) and inconsistent with the findings by Esonloo and colleagues (2006) is (15,16). Nekooi Moghaddam and colleagues (2010) in their study concluded that between marital status, level of experience and level of education was significantly associated with creativity ($p < 0.05$), but there is a significant correlation between age and gender with Creativity ($p < 0.05$) (15). Esonloo et al (2006) in their study stated that marital status, gender, and education showed no significant correlation with creativity (16). The reason for this difference may be due to differences in study populations. In the present research study, nurses were in children section while in Esonloo study, population is comprised of executives. Due to busy executives, they may have less time for creativity.

The study also found no correlation between creativity and nurses employed aligned with the findings of Ahmadi et al (2012). In their study concluded that there is no significant correlation between years of service and employment creation but significant positive correlation between level of education and creativity ($p = 0.01$).

These findings showed no significant relationship between creativity and overtime, in this regard, according to the findings of Tolooi and colleagues (2006), there is a significant correlation between factors such as overtime with supervision, interest to work, conscious overtime and working overtime with facilities ($p < 0.05$) (18).

Current research indicates that there is no correlation between interest in the work and creativity. However, in Koh and colleagues (2008) and Salehi Sedghiani and Dehghan (2010) they found a significant correlation between interest and competence of individual creativity (19,20). It appears that interest and understanding of people from their jobs effects on job satisfaction and creativity of employees and managers with replacement affect individuals in any area can cause job satisfaction and creativity of their staff.

But regarding the nurses in children section, perhaps because they work with children, there is no significant correlation between amounts of creativity with interest in nursing. However, the present study population was selected from a hospital, Perhaps factors such as management, leadership, organizational culture and the

atmosphere is dominated by hospital cause such a result. The researcher thinks people with higher satisfaction have favorite job tasks, but to increase employee creativity, only increasing interest is not enough and creativity and creative teaching methods can be effective for people. Indeed, the results of this study show that the level of creativity in children's hospital in Shafizadeh is 64%, and considering factors such as marital status and number of children in care is an essential step in order to maintain their creativity and promote innovation in the nurse, then appropriate strategies should be employed.

Acknowledgments

Thereby Babol University of Medical Sciences and Shafizadeh Children's Hospital in Babol and all those in this study helped the researchers be honored and appreciated.

References

1. Jaliliyan, H., Moradi, M., Kakaiimavaii, H., 2010. Transformational leadership and employee creativity. *police Human Dev. Magaz.*, 32(7), 60-73.
2. Fathizade, A., Pakniyat, A., SHahba, M., 2011. Assessment of Creativity and Innovation in Public Administration Education, Agriculture and Health Sirjan city and And provide a model for increased creativity and innovation in organizations. *Manag. j.*, 12(8), 79-94.
3. Philips, K., 2007. Creativity in Older Adults: A Plethora of Possibilities. *Nurs. Publicat. Other Works.*, 28, 389-411.
4. Basiri, G.H., GHafari, M., 2003. Serious Creativity. Printing1. *Publicat. Abizh.*, 1(2), 90-100.
5. Xu, F., Rickards, T., 2007. Creative Management: A Predicted Development from Research into Creativity and Management. *Creativ. Innovat. Manag.*, 16 (3), 216-228.
6. Bono, D., [Homepage]., 2008. 02-01. [online]. <www.Thinkingmanagers.com>. [08 april 2012].
7. Hoseini, M., Sadeghi, T., 2010. Factors affecting faculty and offer solutions to enhance creativity and innovation. *J. Teach. Strateg.*, 1(3):1-6.
8. Zare, H., 2010. Examine the relationship between organizational climate, job stress and employees' creativity (male and femail) in education office of West Azerbaijan Province. *Behav. Sci. Res.*, 5(2), 114-124.
9. Torrance, E.P., 2007. Creativity Research in Education: Still Alive. In: Taylor IA, Getzels JW, Editors. *Perspectives in Creativity*. New Jersey. Transact. Publishers.
10. Manthey, M., [Homepage]., 2012. Springer.[online]. <www.Springerpub.com>. [08 april 2012].
11. Sabzi, Z., [Home page]., 2007. 09-11. [online]. <<http://Jouybari.blogfa.com>>. [2012/03/05].
12. Ahmadian, Z., Ashghale farahane, M., Bastane, F., Haghane, h., 2012. Organizational culture of hospitals nurses Tehran University of Medical Sciences. *Journal of Nursing and Midwifery. Tehran Univ. Med. Sci.*, 3(1), 76-89.
13. Daemi, H., Moghime barforosh, F., 2004. Creative test standardization. *New Cognit. Sci.*, 4(3), 1-8.
14. Shamsniya, A., Ahmadi, A., Afshar, M., 2011. Investigate the relationship between entrepreneurship and creativity with education in Parks staff in science and technology city of Shiraz. *J. new ideas educat.*, 4(6), 160-173.
15. Nekoye moghadam, M., Taghaverad, A., Hakimepor, S., Shafie, M., Ghodarze, G.h., 2010. The relationship between conflict management styles and creativity in teaching hospitals in Kerman 2008. *J. Hosp.*, 9(4), 29-37.
16. Asanlo, P., Asade, H., Godarze, M., 2006. kazemnejhad Anoshirvan. Evaluate the effect relationship between the physical characteristics of individual directors and the Ministry of Science. *Res. Technol. Creative. Confl. Manag., Harkat magaz.*, 30(7), 29-41.
17. Ahmadi, A., Mobaraki, H., Askarinezhad, M., 2012. The relationship between Factors influencing nurses' intention to leave. *Sci. J. Kurd. Univ. Med. Sci.*, 17(2), 101-110.
18. Tolo, M., Dehghan, N., Faghihzade, S., Sadoghi, A., 2006., Training of nurses in relation to patient. *Journal of Nursing and Midwifery. Tehran Univ. Med. Sci.*, 2(12), 43-51.
19. Koh, S., et al., 2008. Nurses' perceived barriers to the implementation of a fall prevention clinical practice guideline in singapore hospitals. *BMC Health Serv. Res.*, 8(10), 105.

20. Salehe sedgheyane, J., Dehghan, N., 2010. The relationship between psychological empowerment of employees' creativity by using multiple regression(Case Study: Tehran Technical Services Co). *Quantitat. Stud. Manag.*, 1(2), 31-48.