

## ORIGINAL ARTICLE

## Entrepreneurship Psychological Characteristics of Nurses

Mohammad Reza Dehghanzadeh<sup>1,2</sup>, Golrasteh Kholasehzadeh<sup>3</sup>, Masoumeh Birjandi<sup>4</sup>, Ensieh Antikchi<sup>1,3</sup>,  
Mohamad Reza Sobhan<sup>5</sup>, and Hossein Neamatzadeh<sup>4,6</sup>

<sup>1</sup> Baghaie-Pour Clinic, Shahid Sadoughi Hospital, Shahid Sadoughi University of Medical Sciences, Yazd, Iran

<sup>2</sup> School of Management, University of Tehran, Tehran, Iran

<sup>3</sup> Department of Psychology, Shahid Sadoughi University of Medical Sciences, Yazd, Iran

<sup>4</sup> Nursing and Midwifery School, Iran University of Medical Sciences, Tehran, Iran

<sup>5</sup> Department of Orthopedics, Shahid Sadoughi University of Medical Sciences, Yazd, Iran

<sup>6</sup> Geriatric Ophthalmology Research Center, Shahid Sadoughi University of Medical Sciences, Yazd, Iran

Received: 19 Nov. 2015; Accepted: 02 Feb. 2016

**Abstract-** Nurses are full partners with other health care professionals. Until fairly recently the scope of nurses potential in entrepreneurship has not been widely recognized. The present study tries to evaluate entrepreneurship psychological characteristics among nurses. The survey instrument included scales measuring entrepreneurship psychological characteristics including locus of control, need for achievement, risk taking propensity, ambiguity tolerance, and innovation, among nurses in the Shahid Sadoughi Hospital, Yazd, Iran in 2013. In this study average of entrepreneurship psychological characteristics of nurses which are higher than standard mark. The majority of the nurses have average entrepreneurship (20.4%). It means that they have some strong entrepreneurship. The result show that average of the need for achievement is 34.5%, the locus of control 33.8%, risk taking propensity 33.2%, ambiguity tolerance 34.2%, and innovation 41.6%. The results indicate that the 4 dimensions of the need for achievement, risk taking, Ambiguity Tolerance, and Innovation were significant. However, the locus of control is not significant at a 0.05 significance level. In terms, entrepreneurially nurses are comparatively more innovative, have risk taking attitudes, need for achievement, Ambiguity Tolerance, and Innovation. Results largely support significant positive relationships between psychological traits and entrepreneurial orientations.

© 2016 Tehran University of Medical Sciences. All rights reserved.

*Acta Med Iran*, 2016;54(9):595-599.

**Keywords:** Entrepreneurs; Propensity to take risk; Locus of control; Self-confidence; Need for achievement; Tolerance to ambiguity; Innovation

### Introduction

Entrepreneurship, an emerging field of inquiry, evolved from a foundation in the political economy along with a significant contribution from the field of psychology and sociology (1). The word entrepreneur was originally employed in the Middle Ages and signified "a person who is active, who gets things done" (2,3). Entrepreneurship is a complex concept, which many scholars in the field of economy, sociology, psychology and sciences have tried to define. Entrepreneurs have many different profiles. Despite all efforts, no consensus has been reached regarding the boundaries of the definition of entrepreneurship (4). Successful entrepreneurs carry a personality trait that displays the psychological characteristics of internal

locus of control, high self-esteem, propensity to take risks, tolerance of ambiguity, need for achievement and innovativeness (5).

Nurses are full partners with other health professionals, ignorance, and confusion about their role and relationship with other care providers, economic issues affecting fee setting and client reimbursement, and legal issues need to be addressed (6,7). However, barriers to self-employment for nurses remain. The main reason is that innovation and entrepreneurship in nurse education have been avoided due dominant values are acceptance, standardization, and prescription (6,8). Historically, there have been challenges and barriers to entre- and intrapreneurship initiatives by nurses. However, the emphasis on healthcare reform has supported this evolving nursing role, and some progress

**Corresponding Author:** G. Kholasehzadeh

Department of Psychology, Shahid Sadoughi University of Medical Sciences, Yazd, Iran  
Tel: +98 913 1917091 Fax: +98 353 8229104, E-mail address: fa.net87@yahoo.com

## Entrepreneurship psychological characteristics of nurses

has been made. Roles of nurse education in economic growth through contributing to the creation of entrepreneurship climate have evolved in time and grew beyond being just educators and disseminating the existing knowledge (6,9).

Nurses comprise the largest proportion, up to 80% of the health workforce and are considered to be the front line staff across the health continuum in most health services and countries (10). In spite of the immense and significant role that nurses play in the healthcare system, they are seldom considered equal partners in multidisciplinary health care teams (6). Nurses naturally generate new ideas, to contribute to innovation by the creation of a new venture and developing technology as an output of nurse's activities.

The aim of this study is to provide entrepreneurship psychological characteristics of nurses in cancer setting in Shahid Sadoughi Hospital, Yazd, Iran in order to gain sustainable knowledge essential for the empirical part of entrepreneurship among nurses.

## Materials and Methods

The sample for the study consisted of 58 nurses in the Shahid Sadoughi Hospital, Yazd, Iran. Thus, the questionnaire was a follow-up survey sent to 167 respondents.

### Instrument

In this study, the Personality Characteristics of Successful Entrepreneurs was measured by different dimensions. The method used in this research was a descriptive survey. In order to gather data, a closed questionnaire with a section was used. The section consisted of 68 questions in 5 dimensions. The dimensions were a propensity to take risks (18 items), the locus of control (17 items), need for achievement (15 items), innovativeness (20 items) and tolerance of ambiguity (11 items).

Tolerance for ambiguity was measured by using six items selected from among the 16 items from the scale of intolerance for ambiguity. Achievement need was measured by the five items that were developed by Steers and Braunstein (1976). Internal-external locus of control was measured using items from Rotter's locus of control scale one of the most frequently used scales in this area. The propensity for risk taking was measured using eight items from the Jackson personality inventory (6).

### Propensity to take risk

The propensity to take risk refers to a condition where a

person is ready to do something or accept responsibility where there is a chance of failure (11). The risk-taking propensity is defined as the perceived probability of receiving rewards associated with the success of a situation that is required by the individual before he will subject himself to the consequences associated with failure, the alternative situation providing less reward as well as less severe consequences than the proposed situation. A high propensity to take risks is also considered to be an important characteristic of entrepreneurs. More risk adverse individuals are expected to become workers, while the less risk adverse becomes entrepreneurs. The theory suggests that entrepreneurs are risk-takers (12,13). However, entrepreneurs generally tend to accept a calculated risk (14). Risk tolerance is a key factor in distinguishing entrepreneurs and managers, and entrepreneurs cope better than others under uncertainty (14).

### Locus of control

Locus of control refers to the perceived control over the events in one's life (16). Locus of control, a concept from Rotter's (1966) social learning theory, was tested with regard to characteristics of entrepreneurs (16). People with an internal locus of control believe them to be in control of their destiny. People with an external locus of control believe to be controlled by others or chance events. Locus of control may be related to proactiveness. When the individuals believe that they can make a difference in their lives by performing certain actions, they may be more willing to think about the future and act proactively. Research indicates that people with higher degrees of internal locus of control tend to monitor the environment to obtain information (17). This tendency may be the result of a desire to act on the environment. According to studies, internal locus of control is one of the characteristics of an entrepreneur (9,15).

### Need for achievement

Achievement motivation can be defined as behavior towards competition with a standard of excellence (18,19). People who have high levels of achievement motivation tend to set challenging goals and try to achieve these goals. These people value feedback and use it to assess their accomplishments. Achievement motivation is a trait that is prevalent among entrepreneurs. It is believed that individuals with a high need for achievement have a strong desire to be successful and are consequently more likely to behave entrepreneurially. As Bridge (20) has mentioned, entrepreneurs have a strong need for achievement which drives them to action. Achievement motivation can be

defined as “behavior towards competition with a standard of excellence” (19). Most studies have been confirmed the relationship between entrepreneurship and the need for achievement (6,15).

### Innovativeness

Schumpeter in his definition of entrepreneurship focused on innovation and creativity. Schumpeter identified the entrepreneur as one who has inborn traits of creativity and innovativeness. Without innovation, entrepreneurship would be of little economic interest. Innovativeness relates to perceiving and acting on business activities in new and unique ways (15). In entrepreneurship literature, innovation is cited as one of the main traits of entrepreneurs. Previous studies have shown entrepreneurs to be more innovative than non-entrepreneurs (8,14).

### Tolerance of ambiguity

Tolerance for ambiguity may be related to certain entrepreneurial styles. Tolerance for ambiguity is found to be related to personal creativity (21) and the ability to produce more ideas during brainstorming (22). McClelland *et al.*, defines intolerance for ambiguity as a tendency to perceive ambiguous situations as a source of threat (18,19). From this definition, we can infer that tolerance for ambiguity refers to the tendency to perceive ambiguous situations in a more neutral way. People who have low levels of tolerance for ambiguity tend to find unstructured and uncertain situations uncomfortable and want to avoid these situations. Tolerance for ambiguity is found to be related to

personal creativity (9,18) and the ability to produce more ideas during brainstorming. These findings suggest that creativity and innovativeness require a certain level of tolerance for ambiguity. It is believed that tolerance for ambiguity is an entrepreneurial characteristic and those who are entrepreneurially inclined are expected to display more tolerance for ambiguity than others (23).

### Data analysis

Data analysis was carried out using the SPSS 20.0 statistical software package.

### Results

As table 1, results showed that average of entrepreneurship traits of nurses which are higher than standard mark. The majority of the nurses have average entrepreneurship (20.4%). It means that they have some strong entrepreneurship. The result show that average of the need for achievement is 34.5%, the locus of control 33.8%, risk taking propensity 33.2%, ambiguity tolerance 34.2%, and innovation 41.6%.

The results, as shown in Table 2, indicate that the 4 dimensions of the need for achievement, risk taking, Ambiguity Tolerance, and Innovation were significantly ( $P \leq 0.0001$ ). The remaining psychological characteristic locus of control is not significant at a 0.05 significance level. This means the nurses have higher risk-taking, need for achievement, Ambiguity Tolerance, and Innovation characteristics than the average.

**Table 1. Mean of entrepreneurship psychological characteristics scores among nurses**

Variable	n	Mean	Std. deviation
Need for achievement	59	3.4581	.20780
Locus of control	59	3.3817	.43289
Risk taking propensity	59	3.3290	.36350
Ambiguity tolerance	59	3.4258	.35681
Innovation	59	4.1677	.35061
Entrepreneurship	59	20.435	.4354

**Table 2. Results of univariate test t-tests of significant differences**

Variable	n	T.value	P.value
Need for achievement	59	-1.0541	0.0021
Locus of control	59	-0.7821	0.4035
Risk taking Propensity	59	-3.9183	0.0036
Ambiguity tolerance	59	-2.4841	0.0082
Innovation	59	-5.7282	0.0042

## Discussion

Entrepreneurship is a concept becoming increasingly important within the healthcare sector although until fairly recently the scope of its potential in nursing has not been widely recognized. The different types of entrepreneurship, including social entrepreneurship and entrepreneurship, and the importance of social entrepreneurship skills in the changing world of healthcare (24).

The profession of nursing is primed with content and contextual knowledge to create entrepreneurial initiatives. In the context of nursing, it is probable that majority of them could be characterized as entrepreneurs. They will function most effectively where management is supportive of innovation and creativity.

It is known that nursing possesses a rich and important history of nurse entrepreneurs in business, social, corporate, and academic entrepreneurship. For example, nurse entrepreneurs have elevated the position of Islamic women as nurses by working within the system of Islam (25,26). Despite the lack of in hospital entrepreneurial models, the idea of autonomous function and the development of professional nursing practice models within hospital settings have been growing. Previously a contractual model for delivery of hospital nursing care has defined in which professional nurses perform essentially as internal entrepreneurs by contracting as a group with the hospital administration to provide cost effective, innovative patient care on a unit level (27). A nurse is defined as an entrepreneur if he or she offers different nursing services in private-sector markets: care, education, research, and administrative work. However, there are some barriers that nurses need to overcome to become successful nurse entrepreneurs. Such as: Lack of nurse's knowledge and skills to operate in a successful business-like and profitable manner higher cost of malpractice insurance, inability to obtain hospital privileges for some, criticism of physicians about the independent role of nurses (28), statutory limitations, start-up costs for the practice, cash-flow and financing an ongoing practice, accounting practices, billing, and collection of receipts, general and malpractice insurance for the practice and individual providers, and hiring, training, and retraining competent, enthusiastic personnel (29).

The main psychological characteristics associated with entrepreneurship in the literature including the need for achievement, the locus of control, propensity to take the risk, tolerance of ambiguity, self-confidence and innovativeness

(15). In this study followed the psychological characteristics of thought entrepreneurial characteristics related to entrepreneurship, like innovativeness, risk taking propensity, tolerance for ambiguity, the need for achievement, the locus of control and self-confidence. The results showed that entrepreneurially sectors nurses are comparatively more innovative, have risk taking attitudes are motivated by achievement, Ambiguity Tolerance, and Innovation. Results largely support significant positive relationships between psychological traits and entrepreneurial orientations.

In the literature entrepreneurial characteristics suggests that several personality traits are critical to the decision to become an entrepreneur, most notably need for achievement, internal locus of control, and tolerance for ambiguity. However, with the possible exception of locus of control, few if any of these traits seem to affect the performance of those who have chosen to become entrepreneurs. On the other hand, recent research has shown that skills have a very strong and significant impact on entrepreneurial performance. This is most encouraging for the potential nurse entrepreneur because skills may be improved by experience and by training (27).

Important characteristics for nurse entrepreneurs listed as self-image, creativity, desire for risk taking and independence, marketing skills, and abilities for good decision making, priority setting, and budgeting as (30). In addition, Pearson *et al.*, separated nursing, administrative, marketing, and entrepreneurial skills and indicated that risk taking characterized the latter (28). Also, Martin *et al.*, turned to two of the economic and management literature articles and listed 18 "characteristics frequently attributed to entrepreneurs" (31). Other characteristics of the actual nurse entrepreneurs who are in independent practice described, but give no research support to identify actual entrepreneurial characteristics (27). Of all the psychological characteristics presumed to be associated with entrepreneurship, need for achievement has the longest history (23).

This study presents some limitations, first the cross sectional nature of the study, second the sample size is limited to understand the entrepreneurial characteristics, and third this study is limited to Yazd province, Iran.

This study used to trait the entrepreneurial characteristics (need for achievement, innovativeness, the locus of control, propensity to take the risk, tolerance for ambiguity, self-confidence and self-sufficiency) as noted by literature. These research findings indicated that nurses possess a high level of achievement

motivation, and high level of tolerance for ambiguity, risk taking attitudes, and Innovation.

## References

1. Carlsson B, Braunerhjelm P, McKelvey M, Olofsson C, Persson L, Ylinenpaa H. The evolving domain of entrepreneurship research. *Small Bus Econ* 2013;4:913-30.
2. Swedberg R, editor. *Entrepreneurship: The social science view*. Oxford Management Readers. 1st ed. Oxford and New York: Oxford Univ. Press, 2000:403.
3. Volland M. The Gift of an Entrepreneurial Approach to Priestly Ministry in the Parish. *Theol Ministry* 2014;3:1-32.
4. Williams C. The Hidden Enterprise Culture: Entrepreneurs in the Underground Economy in England, Ukraine, and Russia. *J Appl Manag Entrep* 2009;14:361-75.
5. Koe WL, Sa'ari JR, Majid IA, Ismail K. Determinants of entrepreneurial Intention among millennial generation. *Procedia Soc Behav Sci*. 2012; 40:197-208.
6. Wilson A, Whitaker N, Whitford D. Rising to the challenge of health care reform with entrepreneurial and intrapreneurial nursing initiatives. *Online J Issues Nurs* 2012;17:5.
7. Effken JA, Abbott P. Health IT-enabled Care for Underserved Rural Populations: The Role of Nursing. *J Am Med Inform Assoc* 2009;16:439-45.
8. Robinson F. Nurse entrepreneurs. *Pract Nurs* 2008;36:11-12.
9. Abdul Kadir MB, Salim M, Kamarudin H. The Relationship between Educational Support and Entrepreneurial Intentions in Malaysian Higher Learning Institution. *Procedia Soc Behav Sci* 2012;69:2164-73.
10. Hughes F. Nurses at the forefront of innovation. *Int Nurs Rev* 2006;53:94-101.
11. Shahvalizadeh A, Aran A, Feizi M, Shahvalizadeh A. Personal Characteristics Influence Entrepreneurial Inclination: A Case Study Of Students Of Islamic Azad University Of Ardabil Branch. *Tech J Eng Appl Sci* 2012;2:330-34.
12. Saravanakumar M, Saravanan S. Entrepreneurship education shaping students entrepreneurial intention. *Eur J Soc Sci* 2012;33:317-23.
13. Cromie S, Callaghan I, Jansen M. The entrepreneurial tendencies of managers: a research note. *Br J Manag* 1992;3:1-5.
14. Koh HC. Testing hypotheses of entrepreneurial characteristics: A study of Hong Kong MBA students. *J Manag Psychol* 1996;11:12-25.
15. Rotter JB. Generalized expectancies for internal versus external control of reinforcement. *Psychol Monogr* 1966;80:1-28.
16. Van Zuuren FJ, Wolfs HM. Styles of information seeking under threat: Personal and situational aspects of monitoring and blunting. *Pers Individ Dif* 1991;12:141-9.
17. McClelland DC, Koestner R. The achievement motive. In: Smith CP, editor. *Motivation and Personality: Handbook of Thematic Content Analysis*. New York, NY: Cambridge University Press, 1992:143-52.
18. McClelland DC, Atkinson JW, Clark RA, Lowell EL, eds. *The achievement motive*. New York: Appleton-Century-Crofts, 1953:311-7.
19. Miller D. The correlates of entrepreneurship in three types of firms. *Manag Sci* 1983;29:770-91.
20. Bridge S, O'Neill K, Cromie S, editors. *Understanding enterprise, entrepreneurship and small business*. 1st ed. London: Macmillan Press Ltd, 1998:293-7.
21. Tegano DW. Relationship of tolerance for ambiguity and playfulness to creativity. *Psychol Rep* 1990;66:1047-56.
22. Comadena ME. Brainstorming groups: Ambiguity tolerance, communication apprehension, task attraction, and individual productivity. *Small Group Res* 1984;15:251-64.
23. Yusof M, Sandhu MS, Jain KK. Relationship between psychological characteristics and entrepreneurial inclination: A case study of students at university Tun Abdul Razak. *J Asia Entrep Sustain* 2007;3:12.
24. Boore J, Porter S. Education for entrepreneurship in nursing. *Nurse Educ Today* 2011;31:184-91.
25. Kasule OH, Bint Sa'ad R. Historical roots of the nursing profession in Islam. Paper presented at the 3rd International Nursing Conference Empowerment and Health: An Agenda for Nurses in the 21st Century, Brunei Da as Salam, 1998.
26. Jan R. Rufaida Al-Aslmiya, the first Muslim nurse. *Image. J Nurs Scholar* 1996;28:267-8.
27. Herron DG, Herron L. Entrepreneurial nursing as a conceptual basis for in-hospital nursing practice models. *Nurs Econ* 1991;9:310-6.
28. Pearson L. Annual legislative update. *Nurs Pract* 2001;2:7-57.
29. Pollack J. Starting a practice and practice management. In: Joel LA, editor. *Advanced practice nursing: Essentials for role development*. 1st ed. Philadelphia, PA: F.A. Davis Company, 2004:577-611.
30. Nauright LP. Becoming a nurse entrepreneur: Do you have what it takes? *Nurs Life* 1987;7:20-1.
31. Martin S. Exploring the concept of enterprise. *Nursing Economic* 1984;2:406-8.