Relation of some personality variables with mental health of nurses and psychological hardiness at Urmia hospitals

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ABSTRACT

The current paper was aimed at exploring the role of four personality variables (extroversion, conscientiousness, neuroticism and psychological hardiness) with mental health. Participators in the current research were 150 nurses of Urmia city hospital who were selected by simple random sampling. To measure the variables, Goldberg mental health questionnaire, Neo and McCrae and Costa personality characteristics questionnaire and the Kobasa psychological hardiness questionnaire were applied. Research results indicated that there was a positive and meaningful relationship between any of the predictive variables and the criterion variable. Results from a fundamental correlational analysis indicated a significant relationship between the linear combination of predictive variables and linear combination of physical symptoms, anxiety, social dysfunction and depression. Multiple regression analysis also demonstrated that psychological hardiness, extroversion and conscientiousness were highly contributory to the explanation of mental health variance respectively. In other words, these predictive variables explained 48% of the mental health variance.

Keywords: Mental health; Extroversion; Conscientiousness; Neuroticism; Psychological hardiness

1. INTRODUCTION

All countries across the world in line with attaining health focus attention to social communities, but from among these communities health and treatment staff assume more importance; because they consist of one of the main human resources and significantly contribute to the promotion of social health and provision of health and treatment services. Therefore, in most developed and developing countries, a large scope has been devoted to this significant affair whose aim is to secure health of the staff and human force, because it is
imperative for the health and treatment staff to enjoy enough health so that they can promote health for others (Bakhshipour et al, 2015). The value and extent of care services offered by health systems to patients is influenced by behaviors and attitudes of nurses because clinical nurses are the largest professional groups at treatment and health organizations who are directly involved with patients. This group is in the front line of working with the patient and has the highest relationship with them (Kazemipour and Mahde Amin, 2012).

The concept of mental health is in fact an aspect of general health concept. The WHO staff define the thinking and mental health as: The ability to harmoniously communicate and coordinate with others, change and alter the personal and social environment and solve personal conflicts and tendencies rationally, justly and appropriately (Nezamaldin et al 2014). One of the grounds wherein mental health is of importance is the field of profession (Nezamaldin et al 2014). Results by Wong et al (2001) in Hong Kong indicated that over a third of all nurses under study enjoyed lower level of mental health and also a study by Ghafari in Babel indicated that 41/8% of nurses were at the mental health risk. Numerous researches have raised different factors as predictors of mental health of which are: personality characteristics like Neitzert et al (1997), Turk et al (1999), Goodwin and Friedman (2006), Ahadi (2008), Gaveling(2008), Hayes and Joseph (2003), psychological hardiness (Maddi, 2007; Gale, 1994; Wiebe, 1991; Cofen and Edwards, 1989).

Peoples’ personality characteristics could bring about patterns for predicting behaviors and their mental states and peoples’ personal differences are major factors which indicate why some people can get along with environments situations better than others and enjoy different levels of motivation, satisfaction and mental health (Rawlinson, 1988; quoted by Shafiee et al 2011). Personality characteristics are among major subjects of psychology and the five factor pattern is among the most famous personality patterns in the area of factor analysis (Furnham, 2008). These five factors are: neuroticism, extroversion, and openness to experience, agreeableness and conscientiousness (Malouff et al, 2010).

In the present research three characteristics of neuroticism, extroversion and conscientiousness are going to be explored. Neuroticism is a component of personality whose basis is consisted of harmful and adverse emotions experience. Six aspects related with neuroticism are anxiety, anger, hostility, depression, self-consciousness, impulsiveness and vulnerability (Costa and McCrae, quoted by Charkhabi, 2011). Extroversion is a personality trait which involves such characteristics as sociability, being decisive and active and in the end; conscientiousness includes sense of duty, need for progress and regulation. With the increased awareness in the area of psychology the concept of hardiness as one of personality traits has been at the focal point of psychology experts, particularly positive psychologists. From a conceptual view, hardiness is widely considered as a fixed situation (Maddi, 1999). Hardiness with a pattern of skills and attitudes will convert stressful situations to opportunities for growth (Maddi, 2007).

Numerous studies have tested the credibility of hardiness constructs. Constructs are commitment, control and challenge (Marcus et al, 2013). Commitment means the ability to do something and follow it. Control, is belief in the fact that the person is able to control and influence events and challenge also includes the fact that change is the natural aspect of life and challenge is an opportunity for growth not threats (Silva et al, 2014).

People with hardiness have concluded that any change entails a lesson to learn (Orr & Wstman, 1990). After proposing the concept of psychological hardiness by Kobasa (1979) researchers began to investigate it thoroughly (Attari et al 2005; Azmoode, 2005; Shariffee et al 2005; Corley, 1995). Maddia and Hardiness (2006) while reviewing previous literature concluded that hardiness as a natural element could increase the performance and mental
health level of the person despite experiencing distressful and stressful situations. On the
other hand, psychological hardiness is a sign of mental health in people (Maddia and
Hardiness, 2006) and is found to be positively related with bodily and mental health and as a
resource of internal resistance will reduce stressful negative impacts, thereby preventing
bodily and mental disorders (Kobasa, 1979; Florian et al, 1995; Brooks, 2003).

Researches done in this area indicate that this construct is positively related with mental
have stated in their researches that psychological hardiness is positively related with physical
health and in case it is reduced people’s health will rise. Since the mental health of nurses
affects the quality of taking care of patients, recognition of the best conditions for improving
the health situation of nurses will prove effective. Therefore, it becomes clear to pay more
attention to the mental health of nurses in accordance with their valuable role in the promotion
and maintenance of the health of clients and patients (Yao et al, 2008).

According to the material stated the main goal of these researches was to explore the
individual and collective role of personality characteristics in predicting mental health of the
nurse populations.

2. METHODOLOGY

This study is a descriptive-analytical one which falls under a periodical type research
whose statistical population includes nurses of hospitals affiliate to the Urmia Medical
Sciences University. Participators in the current research were 160 nurses of Urmia city
hospital who were selected by simple random sampling. In the end, data obtained from 150
people were analyzed. To estimate the sample size the Cochran formula with \(d = 0.05\) and
t=1/96 was used. The goal of the paper was explained to the sample group and questionnaires
were handed out to them.

The inclusion criterion to the study was a job record of one year for nurses. In the
current research, different tools were used for measuring the intended variables:

**General health questionnaire:** this questionnaire was for the first time released by Goldberg
in 1972 and its goal was to distinguish between healthy people and patients. This
questionnaire has up to now been employed in different situations and in different countries.
The main form of this questionnaire has 60 questions and has various short forms. In this
research a 28 question form was applied. Lower score in this scale indicated better mental
health. In the research by Nezamaldin et al (2014) the reliability coefficient of this
questionnaire by way of Cronbach's alpha and split half methods was obtained as 0/80 and
0/82 respectively. In the present research the reliability of the questionnaire was obtained as
0/81 and 0/82 through the Cronbach's alpha and split half. To assess the credibility of the
construct, the correlation coefficient of this scale was 0/76 with a general question.

**NEO personality characteristics questionnaire:** this test is a shortened form of a revised
questionnaire of Neo personality which is applied for measuring five personality factors.
The five main personality traits investigated in this test are "neuroticism", "extroversion",
"openness to experience", "agreeableness" and" conscientiousness" (Husseini Kookamari et al
2013). In a research the internal consistency for the five factors was reported to be 0/86 to
0/90. In Iran the questionnaire's reliability coefficient for the five factors of "neuroticism",
"extroversion", "openness to experience", "agreeableness" and" conscientiousness" was 0/83,
0/75, 0/80,0/79 and 0/79 (Ashoori et al, 2010).
Psychological hardiness questionnaire: the Kobasa personal views questionnaire was developed by Kobasa (1976) which has 50 items and the subject must specify the true and false extent of the statements on a 4 value scale varying from 0-3. Kobassa and Maddi (1982) indicated in their research that hardiness components, i.e. control, commitment and challenge had reliability coefficients of 0/85, 0/71 and 0/70 respectively. These coefficients were estimated 0/75 for the total trait of hardiness. In the present research the reliability coefficient of the questionnaire was calculated to be 0/89 through internal consistency.

3. FINDINGS

Descriptive findings related with average and standard deviation of sample members' scores and the correlation coefficients of the variables are provided in table (1). The age mean of the research is 33 years where 89/5% of them are women while men account for 10/5% of the samples. Also, the average years of service and the standard deviation of it were obtained as 2/24 and 1/29 respectively. Table (1), demonstrates descriptive findings relating to average, standard deviation correlation coefficients of the research variables. Table (2), provides results of significance test for the complete model of canonical correlation analysis.

Table 1. Average, standard deviation and correlation coefficient of research variables.

<table>
<thead>
<tr>
<th>Row</th>
<th>Variables</th>
<th>Average</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mental health</td>
<td>32/25</td>
<td>1/16</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Neuroticism</td>
<td>25/95</td>
<td>15/93</td>
<td>-0/59</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Extroversion</td>
<td>32/25</td>
<td>13/49</td>
<td>0/53</td>
<td>-0/34</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Conscientiousness</td>
<td>32/13</td>
<td>13/30</td>
<td>0/63</td>
<td>-0/33</td>
<td>0/44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Psychological hardness</td>
<td>68/37</td>
<td>2/17</td>
<td>-0/46</td>
<td>-0/21</td>
<td>0/53</td>
<td>0/54</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Significance test for the complete model of canonical correlation analysis.

<table>
<thead>
<tr>
<th>Test name</th>
<th>Value</th>
<th>F</th>
<th>DF of hypothesis freedom degree</th>
<th>Error freedom degree</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pillai's effect</td>
<td>0/22</td>
<td>2/31</td>
<td>16</td>
<td>624</td>
<td>0/003</td>
</tr>
<tr>
<td>Hetling effect</td>
<td>0/27</td>
<td>2/60</td>
<td>16</td>
<td>606</td>
<td>0/001</td>
</tr>
<tr>
<td>Wilks' lambda</td>
<td>0/78</td>
<td>2/47</td>
<td>16</td>
<td>468</td>
<td>0/001</td>
</tr>
<tr>
<td>Roy's root</td>
<td>0/20</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
As seen in Table (2), the significance of Wilks' lambda 0/78, indicating there is a significant relationship between the two classes of variables (predictive and criterion variables). Wilks' lambda indicates a variance which is not explained by the model. Therefore, the Wilks' lambda index is also called the coefficient of indeterminacy.

If we deduce the indeterminacy coefficient from 1, the determination coefficient or the very variance value explained will be obtained by the complete model where the value of this statistic in the present research equals 0/78.

Thus, the obtained model in this research explains 0/22% of the variance between independent variables and dependent variables.

Table 3. Features of functions resulting from the canonical correlation analysis.

<table>
<thead>
<tr>
<th>Function No.</th>
<th>eigenvalue</th>
<th>Percentage</th>
<th>Accumulative percentage</th>
<th>canonical correlation</th>
<th>Correlation squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0/25</td>
<td>91/60</td>
<td>91/60</td>
<td>0/44</td>
<td>0/20</td>
</tr>
<tr>
<td>2</td>
<td>0/01</td>
<td>5/32</td>
<td>96/93</td>
<td>0/12</td>
<td>0/01</td>
</tr>
<tr>
<td>3</td>
<td>0/006</td>
<td>2/24</td>
<td>99/17</td>
<td>0/07</td>
<td>0/006</td>
</tr>
<tr>
<td>4</td>
<td>0/002</td>
<td>0/82</td>
<td>100</td>
<td>0/04</td>
<td>0/002</td>
</tr>
</tbody>
</table>

It is seen in Table (3), that the canonical correlation square (R²C) of functions were 0/20, 0/01, 0/006 and 0/002. Following Cherry and Henson functions less than 10% of the joint variance must be put aside and are not interpreted. Thus, the first function which explains 20% of the joint variance is interpreted but the second, third and fourth functions will not be interpreted.

Also, results of Table 3 indicate that a simple correlation between the first combinational variable resulting from the independent variables and dependent variables equals 0/44 while the first canonical correlation is not significant. Other correlations will not be significant. Table 4, indicates standard and standard coefficients for a set of predictive and criterion variables in the first function.

Table 4. Standard and structural coefficients of predictive and criterion variables.

<table>
<thead>
<tr>
<th>Dependent variables</th>
<th>Variable</th>
<th>Standard coefficients</th>
<th>Structural coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical symptoms</td>
<td>-0/67</td>
<td>-0/76</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>-0/17</td>
<td>-0/60</td>
<td></td>
</tr>
<tr>
<td>Social dysfunction</td>
<td>-0/53</td>
<td>-0/61</td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>-0/14</td>
<td>-0/33</td>
<td></td>
</tr>
<tr>
<td>Extroversion</td>
<td>0/68</td>
<td>-0/70</td>
<td></td>
</tr>
<tr>
<td>Neuroticisms</td>
<td>0/61</td>
<td>-0/32</td>
<td></td>
</tr>
</tbody>
</table>
It is possible to analyze canonical variables through investigating standard and structural coefficients. Structural coefficients indicate the significance of each variable in the construct of fundamental variables of its class. Only are variables with structural coefficients of less than absolute value of 0.45 considered and interpreted.

The material set in Table (5), demonstrates that from among the four variables, physical symptoms, and social dysfunction with structural coefficients of -0.76 and -0.61 respectively were qualified for the highest relationship with the first combinational variable resulting from dependent variables.

Also, variables of anxiety and depression with structural coefficients of -0.60 and -0.33 did have the least role in creating a combinational variable resulting from independent variables. To judge about the relative importance of the role of independent variables in explaining the joint variance between the two groups of dependent and independent variables, standard coefficients must be used.

**Table 5.** Multiple regression analysis results of predictive variables with mental health.
As seen from Table (5), according to the results from the regression analysis with stage methods, from among predictive variables psychological hardiness, extroversion and conscientiousness had the highest significance role in predicting mental health respectively. The multiple correlation coefficient between the linear combination of predictive and criterion variables is 0.59 and determination coefficients of 0.48 which is significant at the 0.05 level.

As seen the multiple correlation of variables is 0.48 which is significant at the 0.05 level and \( f = \frac{65.27}{27} \). These variables explain 48% of the variance of the mental health. Also, multiple correlation of mental health with psychological hardness is \( \beta = 0.44 \), with extroversion \( \beta = 0.47 \) and \( \beta = 0.48 \) with conscientiousness.

4. CONCLUSIONS

As stated the overall aim of the present research was to explore the relationship of some personality variables with mental health. Results indicated that predictive variables had simple, canonical and multiple relations with mental health and its dimensions. Later, research hypotheses are going to be interpreted and explained. Research results indicated that there is a meaningful relationship between conscientiousness and mental health and its dimensions. This finding is in line with findings by Fernandez et al (2006), Rogers et al (2006), and Samar et al (2007). Neitzert et al (1997) and Turk et al (1999) have demonstrated that neuroticism is accompanied with a report of negative physical and mental signs.

These researchers found out that neuroticism has negative mental effects (like anxious thinking and depression) and some negative physical effects (like pains in the waist and indigestion). Also, research results by Goodwin and Freidman(2006) revealed that neuroticism will likely increase affection with a widespread suffering of mental and physical disorders in the public. Also, it was shown that a higher level of extroversion is significantly correlated with high mental health. In other words, as extraversion increases mental health will increase. A study by Grosset (1990, quoted by Charkhabi, 2011) in the area of personality, stress and disease indicated that prevalence of heart disease, cancers and depression is low among extrovert people. Many researches, including Gaveling (2008, quoted by Charkhabi, 2011) considered the personality dimension of conscientiousness and extroversion as positive and strong predictors of mental health.

In relation with personality and its role on the staff's health, it should be stated that some personality characteristics like neuroticism, given negative and morbid nature could make people prone to experience some negative states and some other personality traits like extroversion and conscientiousness because of having a positive and string nature could provide the ground for compatibility and prevention of many mental and physical abnormalities. Also, results obtained are in concert with previous research findings which referred to hardness as a psychological component predicting mental health. In this regard, these findings are in coordination with findings by Hjemdal et al (2006), and Hung(1995). To explain the effects of hardness on mental health, Tartaski maintains that hardness will enhance peoples' capability to cope and help them in different situations.

Also, Kobasa (1979) believed that hardness will increase peoples' capacity to control and their commitment to duties and facing eventualities. It may be said that people with hardness utilize problem solving method to deal with the problems, i.e. a method which converts mental pressure to safe experiences and therefore, level of concern and feeling of danger in adverse eventualities in people with hardness is very low (Low, 1996). Inzlicht et al (2006) have pointed out that hardness will reduce depression and anxiety.
Findings of this research suggest significance of personality traits in maintaining and promoting mental health of nurses. According to the results obtained, it is suggested that by the time of choosing and employing hospital personnel people’s personality characteristics investigated, meaning it is much better to select people who have an extroversion character and higher conscientiousness and meantime low neuroticism. The consequence of this choice will be nurses who deal with patients calmly and good morale. This research like other researches has limitations.

The prospective researches are better to focus attention to them. First of all, the present research does not prove causality. Prospective researches could use causal relations for a longitudinal scheme. Second, results cannot be generalized to all organizations with different features. It is suggested for these researches to be repeated in other organizations and working situations. The current paper was aimed at exploring the role of four personality variables (extroversion, conscientiousness, neuroticism and psychological hardiness) with mental health.

References


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