Predicting job performance of nurses based on emotional regulation and mental health practices

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Abstract
The aim of predicting job performance of nurses was based on emotional regulation (reappraisal and suppression) and mental health practices. The research method was descriptive and correlational. The population consisted of all nurses in Rouzebeh hospital in years 2014 and 2015. 200 nurses were selected by convenience sampling method and responded to Goldberg general health questionnaire, Gross and John emotional regulation practices and Paterson's job performance. Hierarchical regression was used to analyze the data. The results showed that job performance of nurses be predicted by re-evaluation emotional regulation practice (β = 0.255, p<0.01) positively and by suppressed excitement practice (β = 0.377, p<0.01) negatively at significance level of 0.01. In addition, job performance of nurses be predicted by aspects of anxiety and insomnia (β = 0.247, p<0.01) and depression (β = 0.259, P<0.01) negatively at significance level of 0.01.

Keywords: job performance, emotional regulation, mental health, nursing.
Introduction

Job performance is one of the factors that have significant relationship with organizational goals and requires more focus on it in many organizations. Job performance is evaluated based on factors such as the attitudes of employees about job performance, job satisfaction and commitment in performing tasks (Abdul Ghani, Muhamad Yunus, Bahry, 2016). Job performance of nursing is an important indicator, so that today new ways of measuring and studying this factor are being applied (Platis, Reklitis, Zimeras, 2015). Nursing is a job that needs to provide humane care, empathy, cultural sensitivity, ethics and expertise in work environments with limited resources and growing responsibilities. Such an imbalance between the need for high-quality care and deal with stressful work environments can lead to negative consequences such as burnout (Khamisa, Oldenburg, Peltzer, K., & Ilic, 2015). Mental health of nurses is a major and unattainable objective in many hospitals (Salerno, Dimitri, Livigni, Magrini, Talamanca, 2015). Mental health can be defined as the absence of mental illness, including biological, psychological and social factors which contribute to the person's mental state and his ability to work with environment (Manol et al., 2015). In recent years, organizations are paying attention to mental health and the impact of mental and physical health on personnel job performance, so that many organizations plan to identify sources of stress and tension in the work environment through scientific research and provide appropriate solutions to increase job satisfaction and job performance (Tabe' Bordbar, Kazemi and Ranbaran, 2010). In this regard, the results of Ehtesham zadeh, Sabri Nazarzadeh and Memarbashi Aval (2013) showed that sense of coherence is mediated by emotion and problem focused coping strategies and mental health and are directly related to job performance. In other words, sense of coherence can be more influential on job performance through public health and coping strategies as mediator. In this study of Lindenbaum (2013), emotional intelligence is considered as the moderator of the relationship between mental health and job performance indicators. Emotional regulation practices have a significant impact on expression of feelings and physical and psychological health. The successful adjustment of emotional states is important for social compatibility and generally well-being; Difficulties in emotional regulation associated with psychological problems and may lead to depression and anxiety (Ho et al, 2014).

Based on Grass emotional regulation process model (1998), the core practices of emotional regulation include re-evaluation (restoration of an emotional situation as the situation with lower emotion) and emotional suppression (prevent showing external emotional state, during excitement). The main difference between the re-evaluation strategies and emotional suppression is that reappraisal strategy is used before the emotions are fully experienced; while the emotional suppression strategy used after beginning the experimental, behavioral and physiological responses (Grass, 2001). Studies have shown that the emotional regulation practices during which people consciously and unconsciously regulate their emotions are amongst the mental health indicators such as anxiety and depression (Aldao, Nolen-Hoeckema and Schweizer, 2010: Elahi et al, 2015). In the study of Diedricha, Hofmannb, Cuijpersc and Berking (2016), Re-evaluation and sel-pity emotional regulation practices as a preliminary emotional regulaiton practice are correlated with depressed mood. Dani and colleagues (2015) showed that the use of adaptive re-evaluation emotional regulation practice is correlated with hyperactivity of the amygdala brain area and increased levels of anxiety. Amstadter & Vernon (2008) showed that the suppression of thought and avoidance coping practice was associated with levels of depression and anxiety. In this study,
suppression of thought, emotional avoidance coping practices and avoid problems were correlated with each other. After reviewing the above contents, it may be said that job performance of nurses is affected by mental health and moreover, it is influenced by underlying factors such as re-evaluation emotional regulation and emotional suppression practices. Studies have shown those emotional practices, including the most common and most valuable emotional practices (Ho et al, 2014). However, only little research examined these practices in specific occupations such as nursing and there is a gap in this area and the aim of this study is to answer the question whether the practices of emotional regulation and mental health can predict the job performance of nurses?

Methodology

The research method was descriptive and correlational. The population consisted of all nurses in Rouzbeh hospital in years 2014 and 2015. 200 nurses were selected by convenience sampling method (Stein and Stiberg, 2015).

Research tools include the following:

Emotion Regulation Questionnaire: This scale was developed by Grass and John (2003) and the above scale consists of 10 items divided into two subscales of reappraisal (6 items) and suppression (4 items). Responses based on the seven-point Likert scale varied from strongly disagree (1) to strongly agree (7). Cronbach's alpha has been reported for re-evaluation (0.79) and for suppression 0.73 and test-retest reliability for the total scale and after three months have been reported 69% (Gross & John, 2003). The Persian version of Emotion Regulation Questionnaire developed by Grass and John has been normalized by Ghasempour, Ilbeigi and Hassan Zadeh (2011) in Iranian culture. In this study, the validity of the scale based on internal consistency (Cronbach's alpha ranging from 0.60 to 0.81) and validity of the questionnaire through principal component analysis using varimax rotation, the correlation between the two scales (r = 0.13) and criterion validity have been reported desirable. In this study, Cronbach's alpha coefficient for re-evaluation and suppression obtained 0.85 and 0.78, respectively.

Goldberg General Health Questionnaire (1972): This tool consists of 28 questions and 4 physical symptoms (1-7), anxiety and insomnia (8-14), social dysfunction (15-21), critical depression (22-28) on a Likert scale from 0 to 3 (Fathi Ashtiani and Dastani, 2010). Bahmani and Asgari (2006 quoted from Fathi Ashtiani and Dastani, 2010) reviewed and approved four-factor structure of the test through confirmatory factor analysis and Cronbach's alpha coefficient was 0.85 for this instrument. In the present study, Cronbach's alpha for physical symptoms, anxiety and insomnia, social dysfunction and depression were 0.88, 0.84, 0.85 and 0.86, respectively.

Paterson's job performance questionnaire (1992): This scale consists of two forms, one for personnel evaluation and the other for the evaluation of managers and each of them contains 10 materials. In the present study, the personnel evaluation form is used. Responses to the questionnaire were identified on a scales from 1 (very low) to 5 (very high). Sayyahi and Shokkrkon (1996, quoted from Arshadi, 2007), reported reliability of this scale 0.85 through Cronbach's alpha and split-half. Also, Sayyahi and Shokkrkon (1996, quoted from Arshadi, 2007) reported that validity is acceptable at the 0.05 level by linking with a self-assessment questionnaire. In the present study, Cronbach's alpha coefficient was obtained 0.89.
**Procedure:** After visiting the hospital and permission from the professors, nurses completed the questionnaires individually in their workplace. To avoid possible bias in responses to the questionnaire and strengthen the credibility of the results collected, the balancing solution was used and by changing the order presented in the questionnaire, the balance in response validity to the questionnaire items was provided. In this study, ethical issues including informed consent, ensures privacy and confidentiality be observed.

**Results**

200 nurses (137 female and 70 singles) with an age range of 27 to 46 participated in this study which the mean and standard deviation of their age were 34.68 and 6.72, respectively. 72 participants were postgraduated and 122 participants were graduated (6 unanswered).

Table 1. Mean, standard deviation, skewness, kurtosis, correlation between the research variables

<table>
<thead>
<tr>
<th>research variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Emotional regulation - reappraisal</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Emotional regulation - suppression</td>
<td>-0/443**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Public health - physical symptoms</td>
<td>-0/253**</td>
<td>0/181*</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Public health - anxiety and insomnia</td>
<td>-0/366</td>
<td>0/196**</td>
<td>0/594**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Public health - social dysfunction</td>
<td>-0/075</td>
<td>0/192**</td>
<td>0/639**</td>
<td>0/447**</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Public health - depression</td>
<td>-0/262**</td>
<td>0/124</td>
<td>0/635**</td>
<td>0/633**</td>
<td>0/437**</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>7. Job Performance</td>
<td>0/237**</td>
<td>-0/126</td>
<td>-0/204**</td>
<td>0/022</td>
<td>-0/245**</td>
<td>-0/192**</td>
<td>-</td>
</tr>
<tr>
<td>Average</td>
<td>27/58</td>
<td>17/29</td>
<td>10/99</td>
<td>13/34</td>
<td>13/89</td>
<td>13/32</td>
<td>26/44</td>
</tr>
<tr>
<td>Skewness</td>
<td>-0/468</td>
<td>-0/019</td>
<td>0/318</td>
<td>0/634</td>
<td>0/724</td>
<td>0/341</td>
<td>-0/348</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-0/281</td>
<td>-0/579</td>
<td>0/866</td>
<td>-0/136</td>
<td>0/321</td>
<td>0/777</td>
<td>-0/099</td>
</tr>
</tbody>
</table>

According to Table 1, the correlation coefficient between reappraisal emotional regulation practice and job performance was positive and significant at the 0.01 level; in contrast, the correlation coefficient between suppression emotional regulation practice and job performance was not significant at the 0.05 level. Between the dimensions of public health, the correlation coefficients between physical symptoms, social dysfunction and depression with job performance is negative and significant at the 0.01 level. In contrast, there was no significant relationship between anxiety and insomnia of public health and job performance. Table 2 shows that none of the indicators related to the skewness and kurtosis do not crossed the ±2 boundary. This shows that the distribution of data for each of the variables is normal (Klein, 2005). In addition, Cronbach's alpha coefficients obtained for each of the variables in this study suggests that measurement tools used in the study have acceptable internal consistency. Using indicators related to tolerance factor and variance inflation factor showed that these indicators for all predictor variables are greater than 0.1 and less than 10.
this indicates that the linearity phenomenon did not occur between research data (Meyer, Gamst and Goarino, 2006). In order to test the assumption of independence of errors among predictive variables, Durbin-Watson index was assessed and it was equal to 1.812. Fayld (2006) believed that when Durbin-Watson index value is above 2, it indicates a lack of independence of errors. It can be argued that assumptions of normality of univariate, co-linearity and the independence of errors among predictive variables have been established among the research variables. Finally, analysis of information related to "mahalanobis distance (D) » and drawing distribution curve showed that the multivariate normal distribution assumption in this study is established between the data.

After ensuring the assumption among the data collected, the data were analyzed using multiple regression analysis with hierarchical approach. So that emotional regulation practices (reappraisal and suppression) in the first step and public health (physical symptoms, anxiety and insomnia, social dysfunction and depression) in the second step were entered into the analysis as predictive variables. It should be noted that the criterion variable in this study was the job performance of nurses. The results are shown in Table 2.

Table 2. Hierarchical multiple regression in predicting job performance of nurses based on the public health dimensions and emotional regulation practices

<table>
<thead>
<tr>
<th></th>
<th>b</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>First step (emotional regulation practice)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>re-evaluation</td>
<td>0.947</td>
<td>0.265</td>
<td>0.255</td>
<td>3.577</td>
<td>0.001</td>
</tr>
<tr>
<td>Suppression</td>
<td>-0.885</td>
<td>0.177</td>
<td>-0.377</td>
<td>-4.986</td>
<td>0.001</td>
</tr>
</tbody>
</table>
<0/001P (2 · 197)=13/759·F   | 0/114 | 0/123| <0/001P (2 · 197)=13/759·F |
| Second step (public health)  |        |      |      |       |                   |
| Physical symptoms            | -0.419| 0.260| -0.159| -1.614| 0.108             |
| Anxiety and insomnia         | -0.855| 0.309| -0.247| -2.769| 0.006             |
| Social dysfunction           | -0.500| 0.351| -0.120| -1.425| 0.156             |
| Depression                   | -0.954| 0.328| -0.259| 2.904  | 0.004             |
<0/001P (193)=10/084·(6 · F <0/001P =7/359·ΔF)
| 0/215 adjR²=and 0/239R²= | 0/116 ΔR²= |

As Table 2 shows, emotion regulation practice (reappraisal and Suppression) which in the first step entered in the equation of predicting job performance of nurses, predicted it significantly at the 0.01 level (01/0 p< .759/13= (197·2) F). Squared multiple correlation study showed that the value of multiple correlation coefficient (R2) is equal to 0.123. This suggests that emotional regulation practice explained 12.3% of the variance in job performance of nurses.
Based on the results in Table 2, with the arrival of public health (somatic symptoms, anxiety and insomnia, social dysfunction and depression) into the equation to predict job performance of nurses in the second step, the value of R\(^2\) reach 0.239. This finding means that entrance of public health into the equation to predict job performance of nurses could explain 23.9\% of the variance. Changes in the value of R\(^2\) (R\(^2\)Δ) were equal to 0.116. This finding means that with the arrival of public health in the equation to predict and control the effects of emotional regulation practice, the amount of explained variance job performance 11.6 percent increased, which is statistically significant at the 0.01 level (01/0>P = \(\Delta F\)).

**Discussion and conclusion**

Regression coefficients analysis showed that job performance of nurses be predicted by re-evaluation emotional regulation practice (β = 0.255, p<0.01) positively and by suppressed excitement practice (β = 0.377, p<0.01) negatively at significance level of 0.01. In addition, job performance of nurses be predicted by aspects of anxiety and insomnia (β = 0.247, p<0.01) and depression (β = 0.259, P<0.01) negatively at significance level of 0.01.

To explain these findings, we can say that thought suppression can be considered as a strategy for maladaptive emotional regulation, because it increases the effect of unwanted thoughts and negative emotions associated with it (Abramowitz, Tolin and Street, 2001). Research suggests that thought suppression can increase the emotional turmoil (Wegener and Zanakos, 1994; Roemer and Borkovec, 1994). Szasz, Szentagotai and Hofmann (2011) concluded that thought suppression is one of the less effective emotional regulation strategies, because that leads to arousal physiological and psychological turmoil. Frequent avoid unwanted emotions or thoughts may be the belief that thoughts and emotions are actually harmful and reduce a person's sense of mastery and efficiency. It is thought that the effect of thought suppression and avoidance may lead to an increase in psychological distress over time and increased sensitivity to negative stimuli and intrusive emotions as well as an increased willingness to engage in maladaptive emotional regulation strategies (Chapman, Specht and Cellucci, 2005; Rosenthal et al., 2005; Beblo et al., 2013; Geiger, Peters and Baer, 2014). Re-evaluation strategy occurs in the process of emotional regulation strategy and set up experimental, behavioral, and physiological responses. In contrast, the strategy of emotional suppression occurs later and requires the active inhibition of expression that launched excitement and revealed it. So emotional suppression does not change emotional experience, but the physiological response increases in order to avoid emotional expression. Emotional suppression is a form of emotional regulation which requires self-awareness and self-improvement activities during emotional event. Such awareness requires continuous cognitive resources and reduces the resources available for processing emotional events so they can be recalled later. In contrast, the reappraisal strategy is excited through the excitement process. So, this strategy doesn't require emotional regulation and self-regulation efforts during the emotional event. Thus, the memory remains intact. Re-evaluation strategy changes the meanings of situations arousing excitement. In negative emotional situations, re-evaluation strategy is linked to experience and express more positive emotions and experience and express fewer negative emotions and in contrast, thought suppression strategy correlated with less experience and express both positive and negative emotions. This experience and expression of positive emotions are less likely to interfere with social interactions and calls upon adverse reactions in others (Gross, 2001). Thus, the emotional regulation practices, each
in turn, increase or decrease negative emotions such as anxiety and depression and call upon poor mental health.

On the other hand, studies have shown that job satisfaction affects their job performance (Platis et al., 2015). Job satisfaction is a concept that arises from the business environment and personal characteristics and personality traits (Brawley and Pury, 2016). Antecedents of job satisfaction is often categorized into internal stimuli (eg, interest, responsibility) and external (eg, wages and benefits, job security, advancement opportunities) (Kaasa, 2011; Kooij, DTAM, De Lange, AH, Jansen, PGW, Kanfer, R., & Dikkers, 2011). In terms of job satisfaction, the researchers suggest that personality traits could explain why people feel dissatisfied with their job (Mazerolle, SM, Eason, CM, Monsma, EV, & Mensch, JM 2015).

Low mental health such as depression and anxiety leading to impaired job performance and interpersonal relationships. So, it not only affects job satisfaction, but also affects the service delivery and job performance (Siu-Mei Lee, M., Lee, M. B., Liao, S. C., & Chiang, F. T. 2009).

Any research at its core will be a set of restrictions. This study is also not excluded from happening. In the present study, the design was cross-sectional, and we should implement longitudinal plans. In this study, mediator variables such as job satisfaction did not examined, it is suggested that in the future research, the field of research should be focused.
References


