The Adaptive Cognitive Emotion Regulation Strategies Predict the Moroccan Nurses Student Clinical Performance

Lahcen Bandadi¹, Nadia Chamkal², Siham Belbachir³, Fatima Zahra Azzaoui¹ and Ahmed O. T. Ahami¹

¹Cognitive Behavioral Neuroscience and Applied Nutrition Team, Faculty of Sciences, University of Ibn Tofail, Kénitra, Morocco.
²Higher Institute of Nursing Professions and Technics of Health, Rabat, Morocco.
³Unit of Pedagogy, Research in Psychiatry, Medical Psychology and History of Medicine, Faculty of Medicine and Pharmacy, Mohammed V University, Rabat, Morocco.

*Corresponding Author E-mail: l.bandadi@gmail.com

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In nursing, performance is crucial to meet the needs of patients, provide quality care and ensure safety. One of the most fundamental goals of nursing education is to develop nurses student performance. This study was conducted to investigate the effect the adaptive and the maladaptive cognitive emotion regulation strategies on the Moroccan nurses student clinical performance from the Higher Institute of Nursing Professions and Technics of Health, Rabat, Morocco. This study was a descriptive correlational research including 320 students from final semester. The majority of participants were female (72, 50%) with the rest (27,50%) were male. The participants mean age was 21,29±0,79. Two tools were used to collect the data. The first was the Cognitive Emotion Regulation Questionnaire. The second was the Six Dimension Scale of Nursing Performance. The results of this research show significant positive correlation between three of adaptive cognitive emotion regulation strategies (acceptance, positive reappraisal, refocus on planning strategies) and the nurses student performance (p < 0.01). The multiple regression indicates that acceptance strategy is the main predictor of the performance (Beta = 8.13, p < 0.01). The results clearly highlight the importance to promote the emotion management among others cognitive emotion regulation, especially acceptance strategy in the field of nursing education. Other studies should be oriented towards this subject in order to increase knowledge in this field.

Keywords: Cognitive adaptive and maladaptive emotion regulation strategies; acceptance; positive reappraisal; refocus on planning; Nurses student performance.
support and the good relationship\textsuperscript{7}, the emotional intelligence\textsuperscript{8–11}. Other factors were identified by Pitt’s \textit{et al} in a integrative review study among others: The Gender, the study language, the job situation, the previous qualification, the critical reflection ability, the personality, the self-efficacy and the engagement\textsuperscript{6}.

This study aims to explore relationship between the cognitive emotion regulation strategies and the nurses student performance. Such strategies refer to the conscious cognitive strategies used to cope with emotional situations\textsuperscript{12}. There are nine strategies types: Five are adaptive (acceptance, positive reappraisal, putting into perspective, refocus on planning, Positive refocusing) and four strategies are maladaptive (dramatization, self-blame, rumination, Blaming others).

The acceptance consists of accepting the negative situations experienced and resigning to what has happened. Refocusing on planning means taking and managing the negative event. The positive refocusing refers to thinking about happy and enjoyable problems instead of thinking about the negative event. The positive reappraisal refers to the thought of attributing a positive meaning to the event for personnel development. The putting into perspective consists to thoughts of minimize the seriousness negative event comparing to other\textsuperscript{13,14}. The ruminatin, refers to thinking all the time about the feelings and thoughts associated with the negative event. The blaming others refers to thoughts of putting the blame of what you have experienced on others. The catastrophizing consists in an exaggeration in the interpretation of the negatives situation. The self-blame refers to thoughts of blaming yourself for what you have experienced\textsuperscript{13,14}.

The motivation to conduct this study comes from the following earlier findings. The first was the relationship between maladaptive cognitive emotion regulation strategies (principally the rumination, the self-blame and the catastrophizing) and symptoms of depression and anxiety\textsuperscript{13,15–19}. The second is the correlatiationship between psychological problems such as depression, anxiety and the performance\textsuperscript{20–23}. The final, is the absence of the study between the cognitive adaptive and maladaptive emotion regulation strategies and performance.

**Hypothesis 1**
Maladaptive cognitive emotion regulation strategies has a negative impact on the nurses student performance.

**Hypothesis 2**
Adaptive cognitive emotion regulation strategies has a positive impact on the nurses student performance.

**MATERIALS AND METHODS**

**Study setting and participants**
The participants in the current study were the nurses student from the final semester from the Higher Institute of Nursing Professions and Technics of Health, Rabat. This higher education institution not belonging to the university is part of the system of Institutes of Training of Health Professionals under the Ministry of Health.

**The instruments**
The instruments administered to carry out this research were the Cognitive Emotion Regulation Questionnaire (CERQ) and the Six Dimension Scale of Nursing Performance.

The CERQ is a questionnaire designed by Garnefski in order to identify the types of cognitive coping strategies after a negative experiences\textsuperscript{13}. The CERQ consists of 36 items. For each item is awarded a score ranging from 1 to 5. The adaptive strategies are the acceptance (items 2, 11, 20, 29), the positive refocussing (items 4, 13, 22, 31), the refocus on planning (items 5, 14, 23, 32), the positive reappraisal (items 6, 15, 24, 33), Putting into perspective (items 7, 16, 25, 34). The maladaptive strategies are the rumination (items 3, 12, 21, 30), the self-blame (items 1, 10, 19, 28), the dramatization (items 8, 17, 26, 35), and the blaming Others (items 9, 18, 27, 36)\textsuperscript{16,24,25}. The strategic scores are obtained by summing the items number corresponding (ranging from 4 to 20)\textsuperscript{13}. To conduct this study, the Jermann’s \textit{et al} CERQ version\textsuperscript{18} was used.

The Six Dimension Scale of Nursing Performance was designed by Schwirian to evaluate performance in the field of nursing. It composed of 52 items nurse behaviors) grouped into six performance subscale\textsuperscript{26} : the leadership (items: 3.23.25.26.41), the critical care (items: 11.18.19.27.30.31.40), the technical/collaboration
Table 1. Cronbach’s Alpha of the study variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach’s Alpha</th>
<th>Mean (SD Total group)</th>
<th>Mean (SD) males</th>
<th>Mean (SD) females</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acceptance</td>
<td>0.766</td>
<td>11.68(3.98)</td>
<td>11.77(3.88)</td>
<td>11.65(4.02)</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Self-blame</td>
<td>0.898</td>
<td>10.14(3.20)</td>
<td>9.19(2.87)</td>
<td>10.50(3.26)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Positive reappraisal</td>
<td>0.739</td>
<td>11.34(3.81)</td>
<td>11.53(3.71)</td>
<td>11.26(3.85)</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Blaming others</td>
<td>0.790</td>
<td>9.83(3.59)</td>
<td>9.47(3.49)</td>
<td>9.96(3.63)</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Catastrophizing</td>
<td>0.955</td>
<td>9.51(5.11)</td>
<td>7.59(1.87)</td>
<td>10.23(5.73)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Rumination</td>
<td>0.958</td>
<td>11.27(5.43)</td>
<td>8.61(2.33)</td>
<td>12.27(5.91)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Putting into perspective</td>
<td>0.850</td>
<td>10.44(4.40)</td>
<td>10.27(4.42)</td>
<td>10.50(4.40)</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Refocus on planning</td>
<td>0.816</td>
<td>11.49(3.86)</td>
<td>11.38(3.94)</td>
<td>11.53(3.84)</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Positive refocusing</td>
<td>0.764</td>
<td>9.61(2.48)</td>
<td>9.92(1.09)</td>
<td>9.49(2.83)</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Leadership</td>
<td>0.835</td>
<td>2.27(0.86)</td>
<td>2.27(0.88)</td>
<td>2.27(0.86)</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Critical care</td>
<td>0.907</td>
<td>2.61(0.70)</td>
<td>2.65(0.70)</td>
<td>2.60(0.70)</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Teaching/collaboration</td>
<td>0.935</td>
<td>2.32(0.76)</td>
<td>2.36(0.78)</td>
<td>2.31(0.75)</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Planning/evaluation</td>
<td>0.943</td>
<td>2.23(0.92)</td>
<td>2.17(0.96)</td>
<td>2.25(0.91)</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Interpersonal relations/communication</td>
<td>0.960</td>
<td>2.35(0.93)</td>
<td>2.34(0.97)</td>
<td>2.35(0.92)</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Professional development</td>
<td>0.962</td>
<td>2.24(0.90)</td>
<td>2.27(0.89)</td>
<td>2.23(0.90)</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Overall performance</td>
<td>0.947</td>
<td>2.34(0.76)</td>
<td>2.34(0.78)</td>
<td>2.33(0.75)</td>
<td>&gt;0.05</td>
</tr>
</tbody>
</table>
was observed in the each variable of maladaptive cognitive emotion regulation strategies.

Concerning overall performance variable and each dimension of nurses student performance, no significant difference was observed between females and males (p>0.05) (Table 1).

Correlation between the maladaptive cognitive emotion regulation strategies and the dimensions of nurses student performance.

The study revealed the very weak negative correlation between blaming others and leadership (r=0.110, p<0.05) and between blaming other and the teaching/collaboration (r=0.117, p<0.05). However, there was no correlation between the catastrophizing, the rumination and the self-blame strategies and the all of nurse student performance dimensions (Table 2).

Correlation between the adaptive cognitive emotion regulation strategies and the dimensions of nurses student performance.

The results show that there was the highly significant positive correlation between the acceptance and the all dimension of nurses student (0.561<r<0.824, p<0.01). In the contrast, the correlation was moderate with the positive reappraisal (0.279<r<0.369, p<0.01) and weak with the refocus on planning strategie (0.189<r<0.425, p<0.01).

Also, it’s observed the very weak positive correlation between the positive refocusing and planning/evaluation (r=0.121, p<0.05) and between the putting into perspective and two dimensions of nurses student [critical care (r=0.118, p<0.05), Professional development (r=0.147, p<0.01)]. However there was very weak negative correlation between the putting into perspective and the leadership dimension (r=-0.117, p<0.05) (Table 2).

Correlation between the adaptive cognitive emotion regulation strategies and the total performance of nurses student.

The table 2 shows that there was no significant correlation between dramatization, self-blame, rumination, blaming others strategies and the overall performance of nurses student (p>0.05).

Correlation between the maladaptive cognitive emotion regulation strategies and the overall performance of nurses student.

The study shows that overall performance of nurses student was correlated positively with acceptance strategy (0.561<r<0.824, p<0.01), with positive reappraisal (0.279<r<0.369, p<0.01) and with refocus on planning (0.189<r<0.425, p<0.01). Nevertheless, no significant correlation in terms of the putting into perspective and the positive refocusing.

The statistics show any multicollinearity (VIF<10) (The table 4). The Durbin-Watson <2.5, R =0.831, R2 =0.690, adjusted R2 =0.681, F change = 76, p < .001 (Table 3). These indicate

**Table 2. Person Correlations between cognitive emotion regulation strategies and nurse’s student performance**

<table>
<thead>
<tr>
<th>Nurses student performance dimensions</th>
<th>Leadership</th>
<th>Critical care</th>
<th>Teaching/ collaboration</th>
<th>Planning/ evaluation</th>
<th>Interpersonal relations/ communication</th>
<th>Professional development</th>
<th>Overall performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acceptance</td>
<td>0.561**</td>
<td>0.742**</td>
<td>0.779**</td>
<td>0.768**</td>
<td>0.776**</td>
<td>0.790**</td>
<td>0.824**</td>
</tr>
<tr>
<td>Self-blame</td>
<td>0.066</td>
<td>-0.003</td>
<td>0.031</td>
<td>0.107</td>
<td>0.070</td>
<td>0.054</td>
<td>0.064</td>
</tr>
<tr>
<td>Positive reappraisal</td>
<td>0.376**</td>
<td>0.279**</td>
<td>0.314**</td>
<td>0.268**</td>
<td>0.376**</td>
<td>0.353**</td>
<td>0.369**</td>
</tr>
<tr>
<td>Blaming others</td>
<td>-0.110*</td>
<td>-0.105</td>
<td>-0.117*</td>
<td>-0.070</td>
<td>-0.052</td>
<td>-0.066</td>
<td>-0.095</td>
</tr>
<tr>
<td>Catastrophizing</td>
<td>0.005</td>
<td>0.078</td>
<td>0.024</td>
<td>-0.040</td>
<td>-0.016</td>
<td>0.017</td>
<td>0.009</td>
</tr>
<tr>
<td>Rumination</td>
<td>-0.028</td>
<td>0.048</td>
<td>0.008</td>
<td>-0.009</td>
<td>-0.025</td>
<td>0.006</td>
<td>-0.002</td>
</tr>
<tr>
<td>Putting into perspective</td>
<td>-0.117*</td>
<td>0.118*</td>
<td>0.062</td>
<td>0.052</td>
<td>0.095</td>
<td>0.147**</td>
<td>0.066</td>
</tr>
<tr>
<td>Refocus on planning</td>
<td>0.189**</td>
<td>0.354**</td>
<td>0.350**</td>
<td>0.354**</td>
<td>0.382**</td>
<td>0.425**</td>
<td>0.384**</td>
</tr>
<tr>
<td>Positive refocusing</td>
<td>0.044</td>
<td>-0.026</td>
<td>0.020</td>
<td>0.121*</td>
<td>0.079</td>
<td>0.049</td>
<td>0.058</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).**
that the all independent variables of cognitive emotion regulation strategies Tthe acceptance, the positive reappraisal, the putting into perspective, refocus on planning, Positive refocusing, Self-blame, Blaming others, catastrophizing, rumination) contributes at 69% to the variability of dependent variable (nurses student performance) (Table 3). However the acceptance is is the main predictor of performance (Beta = 8.13, t = 19.91, P <0.01) (table 4).

**DISCUSSION**

The purpose of this study was to elucidate the effect of the adaptive and maladaptive cognitive emotion regulation strategies on the nurses student clinical performance. The results show that three of the adaptive cognitive emotion regulation strategies (acceptance, positive reappraisal, refocus on planning) predict the overall nurses student performance. The outcomes support the finding of study of Beauvais et al, Marvos et al and Al-Hamdan et al. witch revealed a relationship between emotional intelligence like an emotion positive management and performance in the field of nursing 8,33,34. These results can be explained by the positive relationship between emotional intelligence and adaptive coping 35,36. Likewise, the results of this study support the finding the positive effect of cognitive revaluation the nurses student performance37.

**Limitation and future directions for research**

The convenience sample, the use of the
self-report questionnaire and the existence of the others factors which may influenced participant responses reduce the ability to generalize the results. Another constraint of this study is that it was limited to a nurses student from final semester.

The study shows the positive effect of the adaptive cognitive emotion regulation strategies on the nurses student performance. The future research needs to be reproduced and needs to investigate the impact of the emotion management training Program among others cognitive emotion regulation strategies on the nurses student performance.

CONCLUSION

The present study shows positive effect of the adaptive cognitive emotion regulation strategies on the nurses student performance. This clearly highlights the importance to promote the emotion management among others cognitive emotion regulation especially acceptance strategie in the field of nursing education. Other studies should be oriented towards this subject in order to increase knowledge in this field.

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