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

Lahcen Bandadi[1], Nadia Chamkal[2], Siham Belbachir[3], Fatima Zahra Azzaoui[1] and Ahmed O. T. Ahami[1]

[1]Cognitive Behavioral Neuroscience and Applied Nutrition Team, Faculty of Sciences, University of Ibn Tofail, Kénitra, Morocco.
[2]Higher Institute of Nursing Professions and Technics of Health,Rabat, Morocco.
[3]Unit 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 strategie 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 strategie 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.

Performance is a requirement of any profession. In nursing, performance is crucial to meet the needs of patients, provide quality care and ensure safety[1,2]. One of the most fundamental goals of nursing education is to develop nurses student performance[3]. In order to improve it, different prior studies have been interested to the factors that can influence it. Several performance determinants have been identified: The psychological distress[4], the Support-seeking[5], The age [6,7,] the teachers

support and the good relationship[7], the emotional intelligence[8–11]. Other factors were identified by Pitt's *et al*l 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[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[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[13,14]. The rumination, 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[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[13,15–19]. The second is the correlatioship between psychological problems such as depression, anxiety and the performance[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 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 refocusing (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) 16,24,25. The strategie scores are obtained by summing the items number corresponding (ranging from 4 to 20) 13. To conduct this study, the Jermann's *et al* CERQ version18 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 subscale26 : the leadership (items: 3.23.25.26.41), the critical care (items: 11.18.19.27.30.31.40), the technical/collaboration

(items: 1.4.5.12.14.28.29.31.32.38.39), the planning /Evaluation (items: 2.4.7.9.10.13.36), the interpersonal relations/communication (items: 8.15.16.17.20.21.22.24.33.34.35.42) and the professional development (items: 43.44.45.46.47.48.49.50.51.52). This scale is characterized by the uniformly high reliability values for all the subscales with (Cronbach's alpha > 8) 26. This scale has been used in the several studies 8,26–32.

To collect the participants sociodemographic characteristics the information sheet was used.

Inclusion and exclusion criteria

The inclusion criteria was that Moroccan nurse students were in the final semesters from the Higher Institute of Nursing Professions and Technics of Health, Rabat, Morocco. The exclusion criteria was the refusal to give the consent.

Ethical considerations

To conduct this study, Institutional permission has been granted. The participants were informed of the purpose of the study, the anonymity and confidentiality. Also the consent participants were obtained.

Statistical analysis

Cronbach's Alpha were calculted to measure the internal consistency of the subscales. Means, standard deviations, student test, to make comparisons related to the gender. Pearson correlations were calculated to establish correlations between cognitive emotion regulation strategies variables and student nurses performance variables.

Standard multiple linear regression analysis (method = enter), was also performed to identify the contribution of each cognitive emotion regulation strategies (independent variables) to the variability of nurses student performance (dependent variable).

RESULTS

Sociodemographic characteristics of participants

The study population includes 320 Moroccan students from the Higher Institute of Nursing Professions and Technics of Health, Rabat. The majority of participants were female (72, 50%) with the rest (27.50%) were male. The mean age was 21, 29 ±0,79.

Differences related to gender

In terms of the maladaptive cognitive emotion régulation strategies, a significant difference related to gender was observed with a high score among females compared to males in the self-blame, the rumination and catastrophizing strategie ($p<0,01$). However there was no significant difference in the blaming others strategie. No significant difference related to gender

Table 1. Cronbach's Alpha of the study variables

	Cronbach's Alpha	Mean (SD Total group)	Mean (SD) males	Mean (SD) females	sig
Acceptance	0,766	11,68(3,98)	11,77(3,88)	11,65(4,02)	>0,05
Self-blame	0,898	10,14(3,20)	9,19(2,87)	10,50(3,26))	<0,01
Positive reappraisal	0,739	11,34(3,81)	11,53(3,71)	11,26(3,85)	>0,05
Blaming others	0,790	9,83(3,59)	9,47(3,49)	9,96(3,63	>0,05
Catastrophizing	0,955	9,51(5,11)	7,59(1,87)	10,23(5,73)	<0,01
Rumination	0,958	11,27(5,43)	8,61(2,33)	12,27(5,91)	<0,01
Putting into perspective	0,850	10,44(4,40)	10,27(4,42)	10,50(4,40)	>0,05
Refocus on planning	0,816	11,49(3,86)	11,38(3,94)	11,53(3,84)	>0,05
Positive refocusing	0,764	9,61(2,48)	9,92(1,09)	9,49(2,83)	>0,05
Leadership	0,835	2,27(0,86)	2,27(0,88)	2,27(0,86)	>0,05
Critical care	0,907	2,61(0,70)	2,65 (0,70)	2,60(0,70)	>0,05
Teaching/collaboration	0,935	2,32(0,76)	2,36(0,78)	2,31(0,75)	>0,05
Planning/evaluation	0,943	2,23(0,92)	2,17((0,96)	2,25(0,91)	>0,05
Interpersonal relations /communication	0,960	2,35(0,93)	2,34(0,97)	2,35(0,92)	>0,05
Professional development	0,962	2,24(0,90)	2,27(0,89)	2,23(0,90)	>0,05
Overall performance	0,947	2,34(0,76)	2,34(0,78)	2,33(0,75)	>0,05

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 nuses 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 maladaptive 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 adaptive 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

	Nurses student performance dimensions						
	Leadership	Critical care	Teaching/ collaboration	Planning/ evaluation	Interpersonal relations/ communication	Professional development	Overall performance
Acceptance	0,561**	0,742**	0,779**	0,768**	0,776**	0,790**	0,824**
Self-blame	0,066	-0,003	0,031	0,107	0,070	0,054	0,064
Positive reappraisal	0,376**	0,279**	0,314**	0,268**	0,376**	0,353**	0,369**
Blaming others	-0,110*	-0,105	-0,117*	-0,070	-0,052	-0,066	-0,095
Catastrophizing	0,005	0,078	0,024	-0,040	-0,016	0,017	0,009
Rumination	-0,028	0,048	0,008	-0,009	-0,025	0,006	-0,002
Putting into perspective	-0,117*	0,118*	0,062	0,052	0,095	0,147**	0,066
Refocus on planning	0,189**	0,354**	0,350**	0,354**	0,382**	0,425**	0,384**
Positive refocusing	0,044	-0,026	0,020	0,121*	0,079	0,049	0,058

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 3. Correlation and regression analysis of cognitive emotion regulation strategies and nurses student performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	Sig. F Change	Durbin-Watson
1	0,831[a]	0,690	0,681	0,42664	0,690	76,806	0,000	2,38

a. Predictors: Acceptance, positive reappraisal, putting into perspective, refocus on planning, Positive refocusing, Self-blame, Blaming others, catastrophizing, rumination
b. Dependent variables: Nurses student performance

Table 4. Standard multiple regression analysis of nurses student performance and cognitive emotion regulation strategies

	Beta	t	p	Tolerance	VIF
Acceptance	0,813	19,91	,000	0,599	1,670
Positive reappraisal	0,006	0,166	,869	0,716	1,397
Putting into perspective	-0,004	-,127	,899	0,805	1,242
Refocus on planning	0,015	0,394	,694	0,675	1,481
Positive refocusing	0,014	0,410	,682	0,804	1,244
Self-blame	0,042	1,178	,240	0,799	1,252
Blaming others	-0,094	-2,810	,005	0,901	1,110
Catastrophizing	-0,008	-0,167	,867	0,424	2,360
Rumination	-0,007	-0,153	,879	0,426	2,346

that the all independent variables of cognitive emotion regulation strategies Tthe acceptance, the positive reappraisal, the putting into perspective, the refocus on planning, the positive refocusing, the self-blame, the blaming others, the catastrophizme, the 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 performance[37]

About the correlation between the adaptive and the maladaptive cognitive emotion regulation strategies and subscales of nurses student performance the results of this study indicate that the all nurses student performance dimensions were significantly correlated positively with acceptance, These reminder others previous results which have illustrate that acceptance effect positively the performance[38,39]. In addition, a significant and positive correlation between the acceptances, the positive reappraisal, the refocus on planning and the each nurses student dimensions. These contrast the finding of Beauvais and all that the leadership and critical care have not any relation with the emotion management 8.

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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