

# Nursing Students' Perceptions of the Educational Learning Environment in Pediatric and Maternity Courses using DREEM Questionnaire

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## Abstract

**Background:** Educational surroundings is one of the most vital factors in figuring out the fulfillment of an powerful curriculum and gaining of knowledge . **Aim:** To compare students' perceptions of the academic learning environment in Pediatric and Maternity courses using DREEM Questionnaire. **Design:** This is a comparative study. **Subjects:** Five hundred and eleven of the third year nursing students studying maternity and pediatric courses by traditional policy participated in the study during the academic year 2014-2015. **Setting:** Pediatric and maternity nursing departments at Faculty of Nursing, Mansoura University, Egypt. **Tool:** An interviewing Questionnaire of two parts: First includes general characteristics such as: age, sex and courses involved. Part two: Includes the DREEM questionnaire. **Results:** The total mean score for pediatric and maternity nursing students' perception of their learning environment were  $115.0 \pm 23.02$  and  $110.3 \pm 17.4$ ; respectively. Students' belief in their gaining knowledge of environment in both specialties were "more positive than negative" with a significant difference between both groups ( $t=2.6$ ,  $p=0.01$ ). All students agreed to a more positive approach regarding their learning "moving in the right direction" for their teachers, feeling " more on the positive side" for their academic self perception, feeling " more on the positive side" for their learning atmosphere " a more positive attitude" they also reported that their social self perceptions were " not too bad. The results showed that 10% of both pediatrics and maternity students have mean score  $\leq 2$  consider (problem areas). More than one third of pediatrics and maternity students have mean score 2.1 - 3 (which needing improvement). About half of pediatrics and maternity students have mean score 3.1 - 3.5 (positive aspect) while none of our students scored  $>3.5$  (excellent items). **Conclusion:** The perceptions of nursing students of their mastering learning environment were "more positive than negative" with a significant difference between pediatric and maternity students. Although the overall questionnaire score was showed to be "more positive than negative" there were five objects out of the 50 that determined mean scores of less than 2.00 that have to be tested greater carefully .

**Keywords:** Perceptions, Learning Environment, DREEM Questionnaire

## 1. Introduction:

Quality of the effectiveness of an educational program of environmental schooling guide on gaining knowledge of, motivation and mastering consequences (Shehnaz & Sreedharn 2011). Nursing as a profession is obliged at present to fulfill the challenges posed by globalization, and responds by forming worldwide alliances in order to facilitate the exchange of knowledge for the improvement of human health (Hamid *et al.* 2013). The foundation for enhancing the health and protection of patients begins with the effectiveness of health care providers. The training of nurses is essential for this health initiatives (WHO 2009). Additionally, educational environment defined as the environment perceived via the students as well as by the teachers, those point of view are based on three important components : the physical environment, intellectual and emotional climate (Jamaiah 2008 & Helal *et al.* 2013)

Many nursing colleges use a collaborative approach to ensure the needs of students through the main stakeholders in their own education. Undergraduate nursing curriculum lead plays a pivotal role in shaping the behavior of nursing students, academic progress and a sense of confidence (Al Rukban *et al.* 2010 ) . So the environment of learning has an impact on the experiences of students and consequences (Al-Kabbaa 2012). Effective learning program that provides students with a variety of educational experiences, involves them in the real teaching process, respect the needs of learners and encourage their participation could be that all the results of positive learning experience (Al-Kabbaa 2012 ;Aghamolaei & Fazel 2010) .

Jiffry *et al.* (2005) illustrated that subscale domain that comprise any educational environment of any health faculty are currently taken into consideration as a great domains of the school environment. Stressful, Competitive, authoritarian environments may disappoint students and weaken their engagement for gaining knowledge of process. Environments which are supportive, collective and cooperative may increase engagement of nursing students which lead to improved readiness for clinical training (Sajid *et al.* 2013).

The improvement of assessment inventories help students' perceptions toward their environmental

learning to be quantified and compared, either longitudinally within single health professions institutions, or among institutions (Sayed & EL-Sayed 2012; Al-Ayed & Sheik 2008).

### 1.2 Significant of Study

Good learning undoubtedly associated with the belief of the gaining knowledge of surroundings, which in turn affects the experiences and learning outcomes for students (Dosg *et al.* 2014). The evaluation of the student perception of the learning environment at the faculty of Nursing help educators and staff in measuring the quality of learning that occurs within this vital place. Critically, we are able to measure both the education and climate change. Although students in the perception of the learning environment has been studied and reported in all parts of the world and we are unaware of any reports on nursing students' evaluation to their studying environments in Egypt. Therefore, the researchers decide to carry this study.

### 1.3 Aim of the Study

This study aimed to examine and compare nursing students' perceptions of the educational learning environment in Pediatric and Maternity courses using DREEM Questionnaire.

### 1.4 Research questions

- 1- What is the perception of nursing students about their Learning environment in Pediatric and Maternity courses?
- 2- What are the strengths and weaknesses within the education climate from student's point of view?

## 2. Subjects and Method:

### 2.1 Study Design:

A comparative design was used to conduct the study

### 2.2 Study Setting:

This study was carried out in the Faculty of Nursing, Mansoura University, pediatric and maternity departments during the academic year 2014/2015. The faculty gives a traditional 4-year course: the first year represents the preclinical stage and is devoted to basic medical and nursing sciences while the last three years represents the clinical stage during which students rotate to different clinical departments. The curriculum depends heavily on the use of lectures. Most of activities are teacher centered which consists of information gathering and few open discussions or problem-solving sessions. The learning task is to reproduce the subject matter in the final examination. The faculty provides academic and social support to their students through periodic supervision and available clinical places for different specialty.

### 2.3 Subjects of the Study:

Five hundred and eleven of third year nursing students studying maternity and pediatric courses by traditional policy were invited to participate. Participants received an explanatory statement detailing the study and were informed that all information collected might remain nameless.

### 2.4 Tool of Data Collection

A structured interviewing questionnaire was used to collect data that consists of two parts: Part I: demographic data such as students age, sex and courses involved. Part II: Dundee Ready Education Environment Measure (DREEM) is a validated and reliable inventory and has been used in many studies of health care education throughout the world. An Arabic version without modification as applied in Saudi

Arabia was used (Al-Ayed & Sheik 2008). The questionnaire consists of 50 items used to pinpoint greater unique strengths and weaknesses within the learning climate. Each scored 0–4 on a 5–point Likert scale (4 = strongly agree, 3 = agree, 2 = unsure, 1 = disagree and 0 = strongly disagree). However, 9 of the 50 items were negative statements and should be scored in reverse manner. The base for the overall DREEM score is 200. High internal consistency has been reported with Cronbach alpha levels of 0.93 (Brown *et al.* 2011). The questionnaire consists of five domains; The students' perceptions of learning, teachers, academic self-perceptions, Atmosphere and students' social self-perceptions.

*Scoring system:* An approximate guide to interpreting the general rating of the questionnaire as: 0-50 very poor, 51-100 significant problems, 101-150 more positive than negative and 151-200 excellent. The DREEM can also be used to pinpoint more specific strengths and weaknesses within the learning environment. Items that have a mean score >3.5 are excellent items, Item with a mean score 3.1-3.5 are positive aspect, Items with a mean between 2.1 and 3 are aspects of the learning that need improvement and Item with a mean <2 should be examined more closely as they signify problem areas (Roff *et al.* 2005).

### 2.5 Procedure:

- Before any attempt to collect data, a verbal consent were taken from nursing students enrolled in maternity and pediatric nursing curriculum to conduct the study after explaining the purpose of the study ensuring privacy and confidentiality of data, and every has the right to withdraw at any time.
- A response rate of third year nursing students was (92 %) as 511 students from total 553 were involved in the study (261 pediatric nursing students and 250 maternity students).
- A self administrated validated Arabic model of the questionnaire (Al-Ayed & Sheik 2008) was administered to nursing students at the end of the year after a lecture class. A covering letter was attached to the questionnaire indicating the aim of the study, the anonymity of respondents and the results will be used only for the stated purposes of the study.

### 2.6 Statistical analysis:

Data were analyzed using Statistical Package for the Social Sciences (SPSS) Version 16.0. Qualitative variables were presented as number and percentage. Chi square test was used for comparison between the two specialties, Monte Carle exact test was used if the expected frequency was <5. Quantitative variables were presented as mean  $\pm$ SD. Unpaired test was used for compare between the two specialties.  $P \leq 0.05$  was considered statistically significant.

## 3. Results

**Table 1: Age and sex distribution of peditrics and maternity students**

	Peditrics (261) N(%)	Maternity (250) N(%)	Significance test
Age (Mean $\pm$ SD)	20.6 $\pm$ 0.5	20.55 $\pm$ 0.5	t=1.4, P=0.14
Sex: Male	99(37.9)	86(34.4)	$\chi^2=0.7, P=0.4$
Female	162(62.1)	164(65.6)	

**Table(1)** shows that the mean age of peditric nursing students were 20.6 $\pm$  0.5 and 20.55 $\pm$ 0.5 among maternity students. Most of students in both specialties (62.1% in peditric and 65.6 in maternity) were female. Both groups were matched regarding their age and sex.

**Table 2: Comparing the mean scores of DREEM in peditrics and maternity students**

Items	Maximum Score#	Peditrics (261) Mean $\pm$ SD	Maternity (250) Mean $\pm$ SD	Significance test
Total score of DREEM	200	115.0 $\pm$ 23.2	110.3 $\pm$ 17.4	t=2.6, P=0.01
Students' Perception of Learning (SPoL)	48	27.5 $\pm$ 7.2	25.3 $\pm$ 5.7	t=3.7, P<0.001
Students' Perception of Teacher (SPoT)	44	26.4 $\pm$ 5.3	26.0 $\pm$ 3.9	t=1.1, P=0.4
Students' Academic Self-Perception (SASP)	32	19.7 $\pm$ 5.1	19.5 $\pm$ 4.7	t=0.4, P=0.7
Students' Perception of Atmosphere (SPoA)	48	24.4 $\pm$ 6.97	23.3 $\pm$ 5.7	t=1.98, P=0.049
Students' Social Self-Perception (SSSP)	28	16.96 $\pm$ 3.99	16.1 $\pm$ 2.95	t=2.6, P=0.009

Roff, et al. 2005

**Table(2)** shows comparison of the mean score of DREEM in peditric and maternity students, The total mean score for peditric and maternity nursing students' perception of their learning environment were 115.0 $\pm$ .23.02 and 110.3 $\pm$ 17.4 respectively. Which revealed that the nursing students' perceptions of their learning environment in both specialty were "more positive than negative" with a significant difference between peditric and maternity students perception t=2.6, p=0.01. As regard DREEM subscale mean score, it was found that students' perception of learning was "positive" (scores of 27.5 $\pm$ 7.2 among peditric students and 25.3 $\pm$ 5.7 among maternity students with a highly significant difference between the two specialty t=3.7, P<0.001 . Their perceptions about faculty teachers were "moving in the right direction" (scores of 26.4 $\pm$ 5.3 in peditric and 26.0 $\pm$ 3.9 in maternity with no significant difference p=0.4). Their academic self-perception were " Feeling more to the positive side" (scores of 19.7 $\pm$ 5.1 in peditric students and 19.5 $\pm$ 4.7 in maternity students with no significant difference p=0.7). While their perception of the atmosphere many issues need changes (scores of 24.4 $\pm$ 6.97 in peditric group and 23.3 $\pm$ 5.7 in maternity group). The students' social self-perception was "not too bad" in both group (scores of 16.96 $\pm$ 3.99 in peditric group and 16.1 $\pm$ 2.95 in maternity group with a significant difference p=0.009.

**Table 3: Interpretation of DREEM scores in pediatrics and maternity students**

Items	Score#	Pediatrics (261) N(%)	Maternity (250) N(%)	Significance test
<b>Total DREEM:</b>				
Very poor	0-50	5(1.9)	0	MCT, P=0.07
Significant problem	51-100	57(21.8)	68(27.2)	
More positive than negative	101-150	197(75.5)	181(72.4)	
Excellent	151-200	2(0.8)	1(0.4)	
<b>Perception of learning(SPoL):</b>				
Very poor	0-12	2(0.8)	1(0.4)	MCT,P≤0.001
Negatively viewed teaching	13-25	99(37.9)	136(54.4)	
A more positive perception	25-37	157(60.2)	113(45.2)	
Teaching highly regarded	37-49	3(1.1)	0	
<b>Perception of teacher (SPoF):</b>				
Very poor	0-11	7(2.7)	4(1.6)	$\chi^2=18.7, P\leq 0.001$
Needs re-education	12-22	54(20.7)	73(29.2)	
Moving in the right direction	23-33	167(64.0)	165(66.0)	
Model instruction	34-44	33(12.6)	8(3.2)	
<b>Academic self-perception(SASP):</b>				
Feeling of total failure	0-8	14(5.4)	5(2.0)	$\chi^2=12.5, P=0.006$
Many negative aspects	9-16	70(26.8)	76(30.4)	
Feeling more of the positive side	17-24	153(58.6)	161(64.4)	
Confident	25-32	24(9.2)	8(3.2)	
<b>Perception of atmosphere(SPoA):</b>				
Very poor environment	0-12	11(4.2)	6(2.4)	$\chi^2=7.5, P=0.054$
Many issues need changes	13-24	61(23.4)	71(28.4)	
A more positive attitude	25-36	177(67.8)	170(68.0)	
A good overall feeling	37-48	12(4.6)	3(1.2)	
<b>Social self- perception (SSSP):</b>				
Miserable	0-7	11(4.2)	8(3.2)	$\chi^2=0.8, P=0.86$
Not a nice place	8-14	7.3(28.0)	68(27.2)	
Not too bad	15-21	170(65.1)	169(69.6)	
Very good socially	22-28	7(2.7)	5(2.0)	

Roff, *et al.* 2005

**Table(3)** shows the interpretation of DREEM sores in pediatric and maternity students. There was a statistically significant difference between pediatrics and maternity students as regards their Students' Perception of Learning (SPL), Students' Perception of teacher and Students' Academic Self-Perception ( $P < 0.05$ ). While there was no statistical significant difference regarding DREEM total score, students perception of the atmosphere and student's social self perception.

**Table (4): Interpreting individual items of the DREEM of pediatrics and maternity students**

Items	Pediatrics	Maternal
Total DREEM(50 items)#		
Items with problem areas (mean score $\leq 2$ )	5(10)	5(10)
Items needing improvement (mean score 2.1-3)	21(42)	23(46)
Items with positive aspect (mean score 3.1-3.5)	24(48)	22(44)

McAler et al. 2002 (%of total items in total scale & each domain)

MCT=Monte Carlo test, FET=Fisher's exact test

\*No excellent items

**Table (4)** shows the individual item analysis of DREEM according to the 5 different subscales. It was observed that the students mean score  $\leq 2$  consider (problem areas) was 10% in both pediatrics and maternity students. More than one third (42% and 46%) of pediatrics and maternity students respectively have mean score 2.1-3 (which needing improvement). Around half 48% of pediatrics and 44% of maternity students have mean score 3.1-3.5 which consider (positive aspect) while students mean score  $> 3.5$  (Excellent items) was 0% in pediatrics and maternity students

#### 4. Discussion

Continuous quality improvement is essential in faculty of nursing. Extra importance have to be given to the

students' perception of their environmental learning. Their perception may be used to initiate exchange and development. Use of the DRRM as a monitoring device might allow timely interventions to identify complicated academic environments (Naeem & Makhdoom 2009).

This study indicated that DREEM overall score of the environment was perceived as more positive than negative in both pediatric and maternity courses, the mean total score was highly statistical significant difference as the score was 115/200 in pediatric students when compared to maternity students score 110.3/200. In comparison the overall DREEM scores reported from diverse nursing school and health science were 114.3/200 in Iranian university (Bakhshi *et al.* 2014), 104.39/200 in Tehran university (Imanipour *et al.* 2015), 113/200 in Dow university of health science in Pakistan, (Sundus *et al.* 2014). Despite the differences in studies settings, the mean scores fell well within the range (101– 150) which indicated that perception of environment “more positive than negative”.

The present study findings were in disagreement with Al-Ayed & Sheik (2008) in King Saud University who reported that DREEM overall score was 89/200. And also with Audinet *et al.* (2003) in Canadian Memorial chiropractic college who founded that DREEM overall score was 97/200. The higher scores on DREEM from the present study as compared to the ratings from these studies might be a mirrored image that suggests a higher academic surroundings at faculty of nursing Mansoura university than in these institutions.

The overall grade of the five DREEM domains contemplated high quality belief by the students. It was observed that all students have a more positive approach to their perception of learning "moving in the right direction" to understand the teachers, feeling "more on the positive side" to recognize academic self and a sense of "more on the positive side" to design the atmosphere, "a more positive attitude, in addition to this their social self perception "is not too bad." This may be because of frequent follow up from the academic staff in both specialties trying to solve any problems facing students. These results were in agreement with previous studies that reported that subscale grades for the DREEM revealed that students' perception of learning was positive and toward their teachers were “moving in the right direction”, their academic self perception was positive as well as was their perception of atmosphere, and the students' social self perception was “not too bad” (Bakhshi *et al.* 2014; Adesola *et al.* 2014; Menaka *et al.* 2010).

While the current study results were in disagreement with Imanipour *et al.* (2015) who reported that negative perceptions of students from teaching and learning, students' academic self perception showed many negative aspects, students' perception of atmosphere showed there are “many issues need to change”. Also the present study results were contrast with Ömer (2010) who reported that students' perception of learning and teaching is viewed negatively, their perception to the atmosphere was “many issues which needed changing”, the differences in studies results may be due to culture difference and educational setting.

Individual items analysis offered a vision to improve certain items in the environment of learning that were observed by students. There had been five DRRM items that scores 2 or less, out of five items, one (“students irritate the teacher”) was negative, the another, the students showed that “long term learning is emphasized over short learning”, “students not confident about passing this year”, “accommodation is not relevant” and “last year work not prepare them to learn this year”. This may be due to large number of students in clinical areas particularly critical ones in pediatrics that not permit to all students to deal with them and culture sensitivity from presence of male students in delivery rooms in hospitals. However according to literature certain factors including entrance to anonymous educational setting, having complex academic tasks and experiencing clinical cause outstanding strain among nursing and midwifery students (Broadbent *et al.* 2015).

The current study findings were in agreement with Hassan *et al.* (2010) who found that items “long term learning is emphasized over short learning”, “last year work not prepare them to learn this year” and “students irritate the teacher” have score less than 2. Also Omer (2010) reported that item “students irritate the teacher” has score less than 2.

There had been 24 objects in pediatric and 22 objects in maternity scored 3.1- 3.5 which indicated positive aspect, student reported that teaching is often simulating and they are clear about the learning objectives of course, additionally their instructors have good communication skills, give clear examples and were well prepared for their teaching. They also considered the overall environment of faculty relax and comfortable, well time table, enjoyment outweighs the stress which indicating that the program is very interest. This explain that the curriculum not overloaded and fulfill the objectives. Moreover, there is a good support system for students who become stress. This results revealed that the students are aware of support system that department provides to facilitate learning for students when they become stressed during the course of study. The present study results were in agreement with findings of Sajid *et al.* (2010) & Roff *et al.* (2005).

In relation to items that needing improvement. The study results showed that 21 items in pediatric and 23 items in maternity needed improvement as students unable to memorize all need, they are tired too enjoy the program, unable to concentrate well. This may be due to the complex academic tasks, experiencing clinical and encounter with patient which cause stress to students. This result agrees with Imanipour *et al.* (2015).

Individual items analysis reveals that no item scored above 3.5 which means that we have a lot of

aspects or areas need improvement. This result was in agreement with the findings of previous studies Sajid *et al.*(2013) in Pakistan, Dashputra *et al.*( 2014) in India and Helal *et al.*(2013) in Egypt, while the present study results were in disagreement with Adesola *et al.*(2014) in Nigeria they reported that items 10 ( the students confident about passing this year) of the SSAP domain scored above 3.5. Also Hassan *et al.*(2010) in Khartoum showed that item 18 ( the teachers have good communication skills with patient) has score 3.87.

### 5. Limitation of the study

Although the results of our study are the first indicator of how nursing students perceive their learning environment, the present study offers no comparison with the expectation of students to their nursing school learning environment and their academic achievements. The results not representative to all nursing students as we specify students included in our specialty and the self-report nature of the study may contribute to bias.

### 6. Conclusion

This study has provided useful information through examining students' perception of their learning environment by using the DREEM inventory. The perceptions of nursing students of their learning environment were “more positive than negative” with a significant difference between pediatric and maternity group. Although the overall learning environment score was observed to be “more positive than negative” there were five items out of the 50 that showed mean scores of less than 2.00 that should be examined more closely.

### 7. Recommendation

The college should organize regular faculty development activities to address issues on: academic dishonesty among students, helping students cope with difficulty in learning, improving schedules so students are kept informed and prepared for their learning activities, creating a harmonious learning environment during students' clinical postings and providing strong student support facilities for counseling, sporting and cultural activities on the campus .A nation-wide scale study ,both qualitative and quantitative, including all nursing students will reflect the actual situation of learning environments.

### 8. Acknowledgements

We are extremely grateful to all participants of this research.

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