# Emotional Intelligence, Self- Efficacy and Academic Performance among University Students

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Abstract: Emotional intelligence has of recent engaged the attention of researchers. It encompasses the human skills of empathy, self-awareness, motivation and self-control. The relationship of emotional intelligence (EI) with academic performance is controversial. Emotional intelligence (EI) as a predictor of life satisfaction and mental health, is the ability to assess, regulate, and utilize emotions and has been found to be associated with academic self-efficacy and a variety of better outcomes, including academic performance. EI has been found to be associated with a variety of outcomes, including academic performance. Some studies have examined the moderating influence of EI on the link between academic self-efficacy and academicachievement among university students (Adeyemo, 2007). Others have explored the development of EI on levels of students' selfefficacy and task performance (Gil-Olarte, Palomera, & Brackett, 2006). Thus the aim of this study was to explore the relationship betweenEmotional Intelligence, Self- efficacy (SE) and student's academic performance among university student. The subjects consist of 152 nursing students and 194 from media and mass communication colleges, Cairo University during the academic year 2015/2016were included in the study. Two tools the trait Emotional Intelligence Questionnaire- Short Form (TEIQue- SF) and the General Self- Efficacy Scale (GSE) were used to collect data, in addition to students GPA during the second semester of the academic year 2015/16. Female university students showed higher GPA and EI scores than males. The mean of EI was significantly higher among the non-medical students compared to the nursing students. There was no sex difference in SE. The mean score of EI was higher among the group with the top 10<sup>th</sup> percentile of GPA.

## I. Introduction

Emotional intelligence has of recent engaged the attention of researchers. It encompasses the human skills of empathy, self-awareness, motivation and self-control. Its cognitive components reflect the potential for intellectual and emotional growth. (Por, Barriball, Fitzpatrick, & Roberts, 2011) (Salovey&Grewal, 2011).Emotional intelligence (EI) as a predictor of life satisfaction and mental health , is the ability to assess, regulate, and utilize emotions and has been found to be associated with academic self-efficacy and a variety of better outcomes, including academic performance(Goleman, Boyatzis, 2006) (Daus&Ashkanasy, 2005. Others have explored the development of EI on levels of students' self-efficacy and task performance (Gil-Olarte, Palomera, & Brackett, 2006). Self-efficacy refers to people's judgments of their own capabilities to organize and execute courses of action required to attain designated types of performances (Bandura, 1986). It has been demonstrated in research works that self-efficacy influences academic motivation, learning and achievement (Pajare; 1995 & Bores Rangel ,1990).Some researchers found that people with high levels of self-efficacy believe their ability in resolving mathematical problems, create a strong commitment to purposes, and refer failure to incomplete knowledge (Williams and Williams, 2010).Therefore, other studies suggested that EI moderates the link between academic self-efficacy and achievement among university students (Adeyemo, 2007).

Emotional intelligence is also a predictor of success. Individuals with higher EI have a greater potential to be successful in a leadership role. Thus, individuals with high EI are well-suited for high-stress careers, including nursing. (Salovey & Grewal, 2011)(Hunt & Evans, 2004)(Adams & Iseler, 2014). Emotional intelligence can be developed and trained overtime and its skills allow the nurse to develop effective relationships with the patient. (Shanta & Gargiulo, 2014)

The association between EI and university students' academic achievement is controversial. Some researchers found that EI is associated with academic performance. (Goleman, Boyatzis, & McKee, 2009)(Daus & Ashkanasy, 2005)Moselhi et al 2015found that EI predicted the students' academic performance in the comprehensive basic sciences examination. (Moslehi, Samouei, Tayebani, & Kolahduz, 2015). They also stated that this could be an explanatory factor for higher academic performance among nursing students. (Fernandez, Salamonson, & Griffiths, 2012). Rankin found a positive association between emotional intelligence, practice

performance, academic performance and retention in nursing school. (Rankin, 2013).Codier 2014 also found that emotional intelligence correlated significantly with grade point average GPA among nursing students. (Codier & Odell, 2014)

There is evidence that emotional intelligence Predicts academic performance, but the mechanism for this correlation is unclear (Qualter, Gardner, Pope, Hutchinson, and Whiteley, 2012). Belanger 2005found that although student's emotional intelligence was not directly linked to academic success, students with higher levels of emotional intelligence had more self-efficacy and that in turn enhanced their academic performance. (Belanger, F. 2005). However, Austin et al. 2007 found that theassociation between academic performance and EI were sparse. (Austin, Evans, Magnus, & O'Hanlon, 2007)Albeit Chew et al. 2013 suggested the possibility of emotional skill development to enhance medical students' academic performance. (B. H. Chew, Zain, & Hassan, 2013), they found in a more recent study negative relationships exist between emotional social intelligence and academic success in undergraduate medical students. Similarly, Humphery- Murto et al found that EI does not appear to reliably predict future academic performance. (Humphrey-Murto, Leddy, Wood, Puddester, & Moineau, 2014).

The importance of Emotional intelligence (EI) as a prerequisite in nursing curriculum for effective competent nursing practice and quality clinical outcomes. For most schools of nursing, grade point average (GPA) is the main indicator of success throughout the nursing program. (Codier & Odell, 2014). Although, one study examined the relationship between measured EI and GPA, finding no correlation between them (Newsome, Day, and Catano, 2000).

To date, the evidence on the association of EI and GPA is equivocal. Therefore, the aim in the current study to investigate such association. Through statistical models, to examine the correlation between self-efficacy (SE) and emotional intelligence (EI). Then to (dis)prove the association of SE and/or EI with the GPA of the Cairo University nursing school students and university students frommedia and mass communication.

#### Aims of the study:

The aim of this study was to explore the relationship between EI, Self- efficacy (SE) and student's academic performance among universities student.

#### **Research question:**

What is the relationship between EI, Self- efficacy (SE) and student's academic performance among university student?

## II. Materials& Method

#### Design:

A descriptive exploratory research design was used in this study.

## Setting:

The study was conducted in faculties using credited hours system at Cairo University. Namely nursing, and media and mass communication.

## Subjects:

The Subjects consist of (346) students selected from the two accredited faculties at Cairo university, they were (152) students from faculty of nursing and (194) students from faculty of media and mass communication. All nursing students(152), who were enrolled in internship period (during first two weeks of orientation period) at the academic year 2015/2016 participated in the study while other students (194), were students of faculty of media and mass communication, who finished their four levels at their faculty.

## Tools

## Tool1: Trait Emotional Intelligence Questionnaire – Short Form (TEIQue-SF).

This tool was develop by (Petrides & Furnham, 2003)it includes 30- question designed to measure global trait emotional intelligence (trait EI). It is based on the long form of the TEIQue .(Petrides& Furnham, 2003)Items were responded to on a 7-point Likert scale where 1= completely disagree and 7= completely agree. Fifteen out of the 30 items were reversed. The TEIQue has been constructed with the aim of providing comprehensive coverage of the trait EI domain (Petrides & Furnham, 2006). **The Global Score of the questionnaire** (all the 30 items, ranging from 30 to 210 after managing the reversed items) gives a snapshot of the general emotional functioning. It is important to note that the global score is very broad, but it is made up of more focused factor scores. These factors are:

**Well-being factor** (selected 6 items of the 30) that suggests the likelihood to be more upbeat and fulfilled than most people.

**Self-control factor** (selected 6 items of the 30) describes how far people think they can control their impulses or are controlled by them. It comprises three different traits: Impulse Control, Stress Management and Emotional Regulation.

**Emotionality factor** (selected 8 items of the 30) comprises four different traits: Empathy, Emotion Perception, Emotion Expression and Relationships. Together they indicate how aware you may be of your own emotions and feelings, as well as those of other people.

**Sociability factor score** (selected 6 items of the 30) suggests that one feels comfortable in social contexts than most people. This may mean you particularly enjoy jobs which require concentration on process details and little social contact. Individuals with a high sociability score are good listeners and effective communicators. Individuals with a low score are not as effective at social interaction.Cronbach's Alpha for test reliability was 0.767.

## Tool 2The General Self-Efficacy Scale (GSE)

This scale was develop by Schwarzer, and Jerusalem, 1995The GSE was used to measure self-efficacy. to construct general belief of perceived self-efficacy by an adult including adolescents. The scale consists of ten items designed to construct perception of self-efficacy. The GSE scale responses to the ten questions made on a 4- point scale (1 = Not at all true, 2 = Hardly true, 3 = Moderately true 4 = Exactly true) with final composite score ranging from 10 to 40. Reliability of the scale on Cronbach's Alpha: ranged from .76 to .90, with the majority in the high .80s in previous study. (Gse, Schwarzer, Jerusalem, Schwarzer, & Jerusalem, 2013).Cronbach's Alpha for test reliability was 0.639

#### Academic performance

Students' academic performance measured by self-reported overall college Grade Point

Average (GPA). The questionnaires were administered to students at the second semester of academic year 2015/2016 to get the last GPA scores. Researchers assessed the reliability of self-reporting GPA by students. A random subsample of 50 respondents (out of the total 346) were chosen. A comparison between students reported GPA scores with the university records revealed that the two sources of GPA were highly correlated, signifying that self-reporting GPA was reliable. In addition a sociodemographic data sheet was developed by the researchers and added to the above tools. It included students' age sex, college, level or class.

## Method

- 1- An official permission was obtained from the vice dean of education and students affairs of both faculties at Cairo University.
- 2- The researchers arranged time with each head of department to meet participants on planned time for each level.

# 3- Pilot Study

Pilot study was carried out on 30 students to test the clarity, feasibility and the applicability of the different items of the determiner scales. Those participants involved in pilot study weren't involved in the actual study.

#### **Ethical Consideration**

Verbal informed consent was obtained after explaining the purpose of the study to the students. Confidentiality of data collection and anonymity were guaranteed.

## III. Results

The subjects comprised 346 university students, of them 43.9% were from nursing school and the rest from media and mass communication as one of non- medical faculties affiliated to Cairo University. Around 40% of the studied subjects were males and the mean age of the subjects was 20.06(1.27). The mean GPA of the subjects was 2.88 (0.564) and those above 3.7 constituted 8.7 of the sample.

**Table 1**Characteristics of the study population sample.Itshows the demographic data as well as the mean(SD) of the Emotional Intelligence (EI)- Global score, as well as the Wellbeing (EI- W) factor, the Self Control (EI- S), Emotion ability (EI- E), and Sociability factors (EI-So) scores. The mean (SD) of self- efficacy (SE) was 28.15(4.43) for the whole sample.

Table 2Assessment of study participants mean scores regarding sex and faculties in relation to their GPA, subscale and Global El and self-efficacy using ANOVA tests. The datacompares the mean of each construct between male and female students using ANOVA test. Females showed significantly higher mean scores of the EI- Global score, EI- W, EI- E, and EI- So. (p<0.05). There was no significant different between both sexes regarding self-efficacy where females showed higher significant GPA than male students.

This tableshows significant higher means of EI- Global score and all EI factors among mass and media communication (non-medicalcollege) than the nursing school. Similarlyamong mass and media communication (non-medical college)showed higher SE scores than their counterparts. Only GPA showed no significant difference between the two faculty groups.

**Table 3**Assessment of study participants mean scores regarding age in relation to their GPA, subscale and Global El and self-efficacy using ANOVA tests .Thedata **showed** the comparison of the study constructs with age. GPA tends to increase significantly with age or among higher classes. Albeit the significant difference of the means of the El- Global scores andits 4 factors in the 5 age groups, a reduction trend was noticed. Therefore, we split the file by setting (nursing students and non-medical group) and run the same test for each group alone. We found that for nursing students, the mean El scores increased from 114.36 to 121.23 by getting older but the difference was borderline significant (p=0.068). Only E- Sociability increased significantly among nursing students by age (means are 20.84, 23.6 respectively between the lower and higher age groups and p= 0.00) (**Data not shown in table**).As regards SE, it seems that freshly joined students seemed to be significantly more self – efficacious than senior students.

Simple correlation between GPA, EI- Global Score, and SE was run. There was significant positive correlation between EI and SE (Pearson R=0.374, p= 0.000). Then we controlled the correlation for age and sex and got also the almost similar result (R= 0.340, p= 0.000). In both thereforementioned simple as well as partial correlation GPA showed nosignificant correlationwith neither EI nor SE ((**Data not shown in table**). Therefore, we divided the GPA scores into two groups taking the cut- off of 3.7 and above (the upper 10<sup>th</sup> percentile as the higher group). Then we run ANOVA tests to investigate whether EI and SE mean score differed significantly or not (**Data not shown in table**).

(**Table 4**)Assessment of study participants mean scores regarding GPA grouping in relation to their subscale and Global El and self-efficacy using ANOVA tests.Thedata showed that EI- Global score and EI-Sociability score means were significantly higher among the higher GPA group (>=3.7) than the lower group. The rest of the constructs( EI(E), EI(S), and EI(W)) showed non-significant association.With the higher GPA (p>0.05).

## IV. Discussion

Today, the importance of emotional intelligence is gradually being acknowledged and the number of studies made in this field is increasing gradually.Emotional intelligence literature reveals that the researches are mainly focused on students. The researchers are especially oriented towards impact of emotional intelligence on success.It is seen that the studies conducted come up with different results and it is becoming difficult to make generalizations. Overall there has been a wide corpus of research relating important concepts such as EI and self-efficacy with academic success. The present study aimedto explore the relationship between EI, Self- efficacy (SE) and student's academic performance among universities student.

The finding of this study show that Emotional intelligence-Global score for nursing students increase significantly by age but the differences was borderline, but E-sociability increase significantly by age. Moreover, GPA tends to increase significantly among higher classes or by getting older. The study findings found that Females showed significantly higher mean scores of the EI- Global score and GPA than male students. No significant difference between both sexes regarding self –efficacy.

In relation to age and sex, different studies found that being female and increasing age were both associated with significant increase in emotional intelligence. (Mayer, Roberts, & Barsade, 2008)(Kafetsios, 2004)(Snowden et al., 2015)(Austin, Evans, Goldwater, & Potter, 2005)

Similarly, the current results showed that there is a sex difference in EI- global score and all factors except EI- self-control. Looking at the literature, we found a discrepancy in the sex difference of EI. That may be due to the choice of measurement instrument. Also, it may reflect the neuroanatomical differences in emotional regulation. Craig et al. (2009) found that females scored higher on the total scale and empathy than males, whereas males scored higher on Self-concept. (Craig et al., 2009) Using the Trait Emotional Intelligence Questionnaire, Mikolajczak et al. (2007) found that females scored higher on Emotionality, whereas males scored higher on Self-Control and Sociability, as a result, males scored higher on the total scale than females. (Mikolajczak, Luminet, Leroy, & Roy, 2007)Baron-Cohen (2002) explained the masculine brain to predominantly seek to understand systems, whereas the feminine brain is predominantly structured to feel empathy. (Baron-Cohen Simon, 2010) Based on that, Kong et al. 2014 studied the emotional regulation ability of different sexes and found using magnetic resonance imaging (MRI) the sex-specific neuroanatomical basis of this ability. (Kong et al., 2014)

Benson et al using another inventory to test EI, found that EI scores were higher among senior nursing students than junior. (Benson, Ploeg, & Brown, 2010). Unfortunately, the results proved the increase in EI-Global score for the nursing students subsample but non significantly. Only the EI-Sociability increased by age significantly for them. For the overall sample, a trend of decrease in EI and SE was noticed.

The present study results indicated that EI and SE are significantly and positively correlated. Previous research proved the same. (Villanueva & Sanchez, 2007) Even EI was proved to be a predictor of selfefficacy among students with different levels of academic achievement. (Article et al., 2015) Because of such positive correlation, students of nursing school had significantly lower in both EI and SE scores than students from non-medical colleges in the same university. Sanchez-Ruiz et al (2010) researched on emotional intelligence in different faculties. They found an interaction between sex and faculty where social sciences female students had higher scores than male students. (Sanchez-Ruiz, Perez-Gonzalez, & Petrides, 2010). Doing the same in this study data did not change the previous results. That denotes the importance of propagating the concept of emotional intelligence for nursing students, nurses and nurse educators. The application of EI concepts in pre-registration in nursing school may provide insights into nursing retention and career success. Student nurses shouldrecognize /managing the emotions evoked by the demands of their nursing programme and, therefore, experienced less stress. Nurses in general need to develop the ability to control their emotions to avoid stress and anxiety. Emotional regulation skills contribute to the professionalism of nurses. Emotional intelligence should be included in the nursing curricula. A study proved that undergraduate nursing students in the studying program had EI scores within the emotionally and socially effective functioning capacity, identifying them as being able to establish satisfying interpersonal relationships, and work well under pressure. (Gerry Benson et al. 2010). Evidence Shows that emotional intelligence and self-efficacy have significant role in health, progress, improving efficacy and performance.(Madhavi et al; 2010).

O'Connor Jr. and Little (2003) examined the relationship between emotional intelligence and academic achievements of university students by using different tools. Their study concluded that regardless of the scale used for measuring the type of emotional intelligence, emotional intelligence is not a powerful indicator of academic achievement. (O'Connor & Little, 2003). The present study showed that neither EI nor SE was significantly correlated with GPA. However, the mean of EI is significantly higher only among the upper 10<sup>th</sup> percentile of the GPS scores. Similar finding was almost proved by Parker et al 2004. They stated that Predicting academic success from emotional intelligence variables produced divergent results depending on how the former variable was operationalized. (Parker, Summerfeldt, Hogan, & Majeski, 2004). Therefore, to prove the association between EI and GPA, they compared EI in two groups: who had achieved very high levels of academic success (GPA of 80% or better) versus relatively unsuccessful students (who received a first-year GPA of 59% or less).

The current study findings revealed that EI- Global score and EI- sociability score means were significantly higher among the higher GPA group (>3.7). Emotional intelligence could be a predictor to self-efficacy which in its turn lead to better academic performance (Article et al., 2015). Yet, that could not also be proved using our data because although SE was positively linked to EI, it was not positively correlated with GPA.

The discrepancy between the results of the present study and other studies was explained by Parker et al to be due to major methodological differences between different studies. (Parker et al., 2004). Moreover, GPA is not the sole parameter of academic performance. Lyons and Schneider concluded that only certain dimensions of EI are related to enhanced performance after controlling for cognitive ability.(Lyons & Schneider, 2005)

# V. Conclusion & Recommendations

- EI and SE are significantly and positively correlated.
- Freshly joined students seemed to be significantly more self –efficacious than senior students.
- Female university students showed higher GPA and EI score than males.
- Nursing school students showed lower EI and SE than media and massCommunication College in Cairo University.
- It is important for nursing students and faculty to understand the concept of EI and examine the likelihood of it to be included in the curricula.
- Emotional intelligence contributes to the professionalism of nurses where nurses should control their emotions, to avoid job stress and to provide better care.
- To establish a meaningful nurse-patient relationship, nurses must be able to manage and monitor both their own emotions and those of others. Therefore, a high level of emotional intelligence will generally be required to cope with the amount of emotional labour involved in daily mental health practice.

#### Limitations of the study:

- The sample size is relatively small due to poor students' response.
- This is a cross sectional study where neither temporality nor causality could be proven. If we would like to conduct a robust study, a group of high EI and/or SE students would be follow up to examine their academic performance and/ or performance at work places.

#### **Future studies:**

We would replicate the study among working nurses to examine the impact of high EI scores on their job performance and their perception on job stress.

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puritorpu	nts (n = $34$	
No.	%	
136	39.5	
210	60.5	
20.06(1.27)		
40	11.6	
96	27.7	
66	19.1	
91	26.3	
53	25.3	
152	43.9	
194	56.1	
$27.46 \pm 6.02$		
23.96 ± 4.69		
$34.24 \pm 6.19$		
1		
24.89 ± 5.76		
l intelligence Score 127.95 ± 18.88		
28.15 + 4.43		
	No.           136           210           20.06(1.           40           96           66           91           53             152           194           27.46 $\pm$ 34.24 $\pm$ 24.89 $\pm$ 127.95 $\pm$	

**Table (1):** Characteristics of the study participants (n = 346)

Table (2): Assessment of study participants mean scores regarding sex and faculties in relation to their GPA, Global Elsubscales and self-efficacy using ANOVA tests

Variables by Sex	Male		Female		ANOVA	р
-	(n = 136)		(n = 210)		test (F)	_
	Mean	SD	Mean	SD		
GPA	2.78	0.57	2.94	0.55	7.448	0.007
EI- Well being	26.04	5.61	28.15	6.19	7.044	.008
EI- Self -controlled	23.79	4.42	24.06	4.86	.269	.604
EI- Emotionally	32.96	5.92	35.07	6.24	9.802	.002
EI- Sociability	24.02	5.83	25.46	5.66	5.215	.023
Global El score	124.14	16.75	130.42	13.79	9.35	.002
Self- Efficacy	27.85	4.45	28.34	4.41	1.031	.311
Variables by Faculty	Nursing	school	Other	faculties	ANOVA	р
	(n = 152)		(n = 194)		test (F)	
	Mean	SD	Mean	SD		
GPA	2.94	0.48	2.83	0.62	3.007	.084
EI- Well being	25.52	4.37	28.98	6.67	30.666	.000

EI- Self -controlled	22.77	4.12	24.89	4.90	18.250	.000
EI- Emotionally	32.29	4.69	35.77	6.78	29.147	.000
EI- Sociability	22.08	4.88	27.10	5.44	79.514	.000
Global El score	118.85	11.32	135.08	20.50	76.892	.000
Self- Efficacy	26.87	2.99	29.16	5.07	24.389	.000

 Table (3): Assessment of study participants mean scores regarding age in relation to their GPA, Global El subscales and self-efficacy using ANOVA tests

Variable by age in years		N Mean		Std.	ANOVA test	
				Deviation	F	Р
GPA	18	40	2.73	0.64	3.128	.015
	19	96	2.87	0.61		
	20	66	2.75	0.56	1	
	21	91	2.96	0.48	1	
	22	53	3.04	0.51	1	
Emotional	18	40	140.33	19.29	7.395	.000
Intellegence-	19	96	128.79	20.61	1	
Global score	20	66	129.39	19.61	1	
	21	91	124.49	16.92		
	22	53	121.23	12.02		
EI_Emotional	18	40	37.63	6.52	4.340	.002
	19	96	34.56	6.46		
	20	66	33.11	6.61		
	21	91	33.97	6.00	1	
	22	53	33.00	4.16		
EI_Self- control	18	40	26.63	4.44	4.698	.001
	19	96	23.13	5.14		
	20	66	24.47	4.22	1	
	21	91	23.45	4.66	1	
	22	53	23.68	3.89	1	
EI_Soiability	18	40	26.90	5.83	6.198	.000
	19	96	25.38	6.10	1	
	20	66	26.59	4.76	1	
	21	91	23.03	5.98		
	22	53	23.60	4.66		
EI_Well being	18	40	30.33	5.67	5.181	.000
-	19	96	27.95	6.07	]	
	20	66	27.85	6.44	]	
	21	91	26.85	5.90	]	
	22	53	25.00	4.81	<u> </u>	
Self Efficacy	18	40	30.78	3.61	9.185	.000
-	19	96	28.63	4.65	]	
	20	66	26.39	5.03	]	
	21	91	28.69	3.86	]	
	22	53	26.58	3.25	]	

<b>Table (4):</b> Assessment of study participants mean scores regarding GPA groupingto their Global El subscales
and self-efficacy using ANOVA tests.

and sen-entracy using ANOVA tests.						
Variable by GPA grouping		Mean	Std.	ANOVA	test	
			Deviation	F	Р	
GPA<3.7	316	127.32	18.65			
GPA >=3.7	30	134.57	20.30	4.070	.044	
GPA<3.7	316	34.12	6.12			
GPA >=3.7	30	35.57	6.89	1.502	.221	
GPA<3.7	316	23.97	4.68			
GPA >=3.7	30	23.87	4.83	.012	.913	
GPA<3.7	316	24.65	5.60			
GPA >=3.7	30	27.47	6.89	6.643	.010	
GPA<3.7	316	27.34	5.91			
GPA >=3.7	30	28.73	7.07	1.466	.227	
GPA<3.7	316	28.07	4.41			
GPA >=3.7	30	29.03	4.54	1.300	.255	
	$\begin{array}{c} GPA \ grouping \\ \hline GPA < 3.7 \\ GPA >= 3.7 \\ \hline GPA < 3.7 \\ \hline \end{array}$	GPA grouping         N           GPA<3.7	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	