

Investigating the Correlation between Emotional Intelligence and Academic Performance

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Abstract

Although there are several evidences correlating emotional intelligence and academic performance, the study investigates a new outlook in finding the correlation between emotional intelligence and academic performance of management students. The standard scores obtained by students at four overbearing term examinations considered as Academic Performance Index (API) and compared with their emotional intelligence quotient. It was found that there is no direct correlation between the overall emotional intelligence as well as the three subscales of emotional intelligence with the academic performance. However, we found a significant correlation between academic score and emotional intelligence in females. The emotional intelligence can be treated as an obscured predictor of academic performance. The subscale of emotional intelligence especially a self-management scale shows positive correlation with qualification. Interestingly, the extended findings indicate inverses relationship between age and academic performance

Key Words: Emotional Intelligence, Academic performance, Gender, Age, Qualification

Introduction

The psychologists have attempted to understand the predictors of success for nearly a century. Publications about this started with the work of Thorndike (1920) who claimed that the performance in college is dependent on several factors such as health, freedom from personal worries, various moral qualities, and intellect or intelligence. Intelligence was defined by Thorndike (1920) as the ability to understand. He further asserted that one can have three types of intelligences: mechanical, social, and abstract, to varying degree. He defined the social intelligence as the “ability to understand and manage people -to act wisely” in human relations affirming that intellect is just one of the several factors responsible for academic performance as indicated by small range of correlation coefficient between academic achievement and intellect. Doll (1935) first designed the instrument to measure the socially intelligent behaviour in young children. Wechsler (1940), with the help of two sub-scales of “Comprehension” and “Picture Arrangement” then described the influence of non-intellective factors on intelligent behaviour to measure the aspects of social intelligence. The concept of emotional intelligence (EI) is

influenced by the early definitions of social intelligence. It was viewed as a part of social intelligence by Salovey (1990) suggesting that both concepts are related and represent interrelated components of the same construct as cited in Bar-On(2006). Post publication of the bestseller book by the same title “Emotional Intelligence” by Daniel Goleman in 1995, EI has become a subject of interest in scientific circles as well as the lay public (Bar-On, 2006). Gardner(1983) however conceptualized personal intelligence as comprised of both: intrapersonal, and interpersonal (social) intelligence. Bar-On (1988,1997b,2000) coined the term emotional-social intelligence (ESI), a wider construct, which is comprised of intrapersonal and interpersonal competencies, skills, and facilitators to affect interpersonal behaviour.

Salovey(1990) defined “emotional Intelligence as the subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions”. The ability model by Salovey&Mayer (1990), The trait model (TEIQue) by Petrides and Furnham (2006), and the mix model by Daniel Goleman (2001) are the three main models of emotional intelligence. The ability model considers EI as pure intelligence or cognitive ability, the ability to observe and understand, interpret, and regulate emotions to promote personal growth. The EI as defined in ability model is measured by an ability test using the MSCEIT (Mayer Salovey and Caruso Emotional Intelligence Test) instrument, based on one's ability to perform certain tasks. The trait model defines emotional intelligence as a collection of emotional self-perceptions as a part of personality. It measures the emotional intelligence based on personality traits by a 30 items self-reporting instrument on a seven-point likert type scale providing scores for four factors of wellbeing, self-control, emotionality, and sociability. The mix model by Goleman defines emotional intelligence as is the ability / set of emotional and social skills to understand & manage own emotions and predict and understand others' emotions. It perceives EI as a mix of cognitive ability and the aspects of personality made up of five dimensions; self-awareness (knowing your emotions), self-management (managing your emotions and motivating yourself), recognize and understand others' emotions, and managing relationships. The Bar-On (2006) model considers EI as a mix of cognitive and social ability, and accordingly it is called as Emotional Social Intelligence (ESI). Both Bar-On and Goleman models measure EI using a self-reporting questionnaire. While the Bar-On model measures EI in terms of Emotional Quotient Inventory (EQi, EQii), the Goleman model assesses the EI in terms of Emotional Competency Inventory(ECI). The

ECI is a multi-rater instrument providing 360-degree ratings on a series of indicators of emotional intelligence. 20 competencies organized into four constructs of self-awareness, self-management, social awareness, and social skills are measured with the help of this instrument. In addition to these three main models, several other self-reporting instruments have been developed as applicable in varying conditions. Taksic(2009), using the theoretical framework of Salovey and Mayer, developed a self-reporting Emotional Skills and Competence Questionnaire (ESCQ) containing 45 items with three subscales of ability to Perceive & Understand emotions, ability to Express & Label emotion, and ability to Manage & Regulate emotion. The present study used this ESCQ-45.

Researchers have attempted to understand the correlation between emotional intelligence and academic performance with an intention that if it is proved beyond doubt that emotional intelligence can predict the academic performance, it will also be possible to enhance academic performance by improving the emotional intelligence. Academic performance is the degree to which a student, teacher or institution has achieved their educational goals. However, present study investigated the relationship between emotional intelligence and academic performance of management students as measured by the scores obtained by them in their end term examinations though Ward (1996) states that “these outcomes indicate only the measure of declarative knowledge and not the procedural knowledge or skills, and there is no agreement on which one is more important”.

The studies about using EI (social intelligence early on) as a predictor of academic achievement have been going on since late sixties and the findings are mixed, even contradictory at times. Tenopir (1967) could moderately predict academic success using social intelligence test in an optimal combination. Osipow & Walsh(1973), and McKelvie (1986) cited in Barchard(2003) failed to find any correlation between social intelligence and academic performance. But in a study by Gough (1965) EI predicted academic performance though the correlation between emotional intelligence and academic achievement was low. Barchard(2003) in a sample of 1st year psychology students using 30 items Neo Personality Inventory(Neo-PI-R), found that only some of the EI measures predicted the academic success. He further observed that since EI contains a wide range of variables, it is likely that at least some of them would predict success in one or the other form. Hence to find the predictors of each possible type of success, an extensive research would be needed. Bastian (2005) too found low and statistically insignificant

correlation between EI and academic achievement. Berenson, Boyels, & Weaver(2008) found EI as a significant (at 0.01 level-2 tailed) direct predictor of academic success in online learning($r=0.325$). (Nasir & Masrur, 2010) found a significant correlation between emotional Intelligence and academic performance measured in terms of GPA among the University students in Pakistani setup while Shipley(2010) using the TEIQue-SF, did not find significant association between total trait emotional intelligence and academic achievement. Fayombo(2012) found a significant positive correlation between six of the emotional intelligence components (of Bachard, 2001 scale), and a negative correlation with negative expressivity as one of the EI variables. Parker(2004) while trying to predict academic success from emotional intelligence found divergent results depending upon how the variables of EI were operationalized. However, he found a strong association between academic success and several dimensions of emotional intelligence (EQ-i). Mohzan , Hassan, & Halil(2012) using two of the subscales from Wong and law (2002) found a significant positive correlation between two domains (Self-Emotion Appraisal and Understanding of Emotion) of EI and academic achievement in a Malaysian sample of 278 University students .Chew, Zain, & Hassan(2013)using MSCEIT on a sample of 184 Malaysian University medical students examined found that more emotionally intelligent students performed better in both continuous assessment, and final examination. Chandramohan & Raj(2015) too found a significant correlation between emotional intelligence and academic performance of female medical students. While Chamundeshwari(2013) and Acharya(2015)too found a positive and significant correlation between emotional intelligence and academic performance of higher secondary student using Hyde, Pethe, and Dhar (2002) scale and P.P. Patel scales of emotional intelligence, respectively. Maria(2015) concluded that the overall emotional intelligence is not strongly related to grades among high school students. However, increase in sociability (TEIQue by Petrides and associates) is strongly related to better academic achievement. They also found higher level of emotional intelligence in girls compared to boys. Malik & Shahid(2016) found a weak correlation between emotional intelligence and academic performance of business management students. However, they found that this correlation improves considerably over the years as they develop emotional intelligence implying that efforts should be made to redesign the curriculum such that it improves the emotional intelligence of students since it is an important ingredient in managerial success. Tyagi(2017)using the mix model of EI, also found a

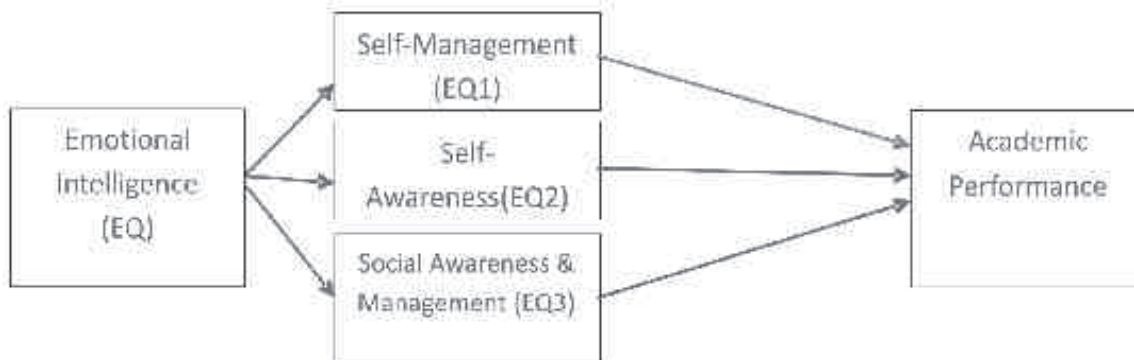
positive significant correlation between emotional intelligence and academic achievement while Saxena(2018) found a higher positive relationship between EI and academic achievement of female students as compared to male students while in general she found that emotional intelligence impacts the academic performance.

Some meta-analysis studies have examined to study the correlation between EI and academic achievement. Richardson(2012), in a meta-analytic review of 42 non cognitive correlates of academic performance, reported correlation of 0.17 including 14 studies. Perera(2013) found a corrected correlation of 0.20 between EI and academic performance($k_{.48}$). The effects were stronger for younger students at early levels of education. While MacCann(2020) considered all the three types of emotional intelligence: Trait, Ability, and Mix. to find a significantly strong association between EI and academic performance ($N_{42,529}$, $k_{1,246}$ from 158 citations) compared with self-rated($r_{.0.12}$, $k_{.33}$), or mixed EI($r_{.0.19}$, $k_{.90}$).

To summarise, the relationship between emotional intelligence and academic performance is found to be both positive and negative varying with the context. The degree of correlation also varies with the situations from no correlation to significant correlation between the two . The results so far do not provide a clear direction. Hence, further studies are needed to confirm the results ultimately; we want to reach a situation of replicability of studies and generalization of results. This study aims to inch closer to this situation. It will not only help us understand the relationship between emotional intelligence and academic performance but also help in deciding whether the curriculum at different levels should include the content on emotional intelligence. Accordingly, the aims of this study are as follows:

- 1.To study the correlation between emotional intelligence and academic performance
- 2.To study the correlation between
 - a.Gender and emotional intelligence
 - b.Age and emotional intelligence
 - c.Qualification and emotional intelligence

Figure 1 depicts the conceptual framework for this study

Figure 1: Conceived Relationship between Emotional Intelligence and Academic Performance**Methods & Materials:**

The respondents: The respondents comprised of people with qualification of HSC, undergrads, and post grades (mostly business management students), and a few Ph D students from Pune and Mumbai Universities (India).

Sampling: Since the data was collected through an online survey, the sampling technique can be comfortably termed as convenience sampling. However, it is not likely to affect

the results significantly since this study aims to validate the previous results rather than claiming to generalize them.

Data collection method: The data about emotional intelligence and academic performance were collected from the respondents through an online survey. 267 responses were received at a response rate of around 70%. Table 1 presents the demographic profile of the respondents.

Table 1: Demographic profile of Respondents

Gender			Qualifications				Age Bracket (yrs)			
Male	Female	Total	HSC	Graduation	Post-Grad	Total	15-20	21-25	26-30	Total
(1)	(2)		(1)	(2)	(3)		(1)	(2)	(3)	
93	174	267	24	55	188	267	63	77	127	267

The Instrument: The instrument comprised of three sections. Section I contains demographic information about the respondents, section II captured the data about the emotional intelligence through the ESCQ-45 by Taksic(2009) based on the theoretical framework of Salovey(1990) while section three captured the data about the academic performance. The ESCQ-45 having 45 item statements comprised of three subscales of i) Ability to Perceive & Understand emotion named as Self Awareness(EQ1) ii) Ability to Express & Label emotion named as Self-management (EQ2), and iii) Ability to Manage & regulate emotions named as Social awareness and management (EQ3). The data was collected in terms of the respondents' level of agreement with these statements on a five point Likert type scale ranging from never (1) to Always (5). The academic performance was measured in

terms of academic performance index(API) calculated as average of points on a five point scale (above 90%=5 ; 76-90%=4 ; 60-75%=3; 50-59%=2, Below 50%=1) based on the scores obtained by the respondents in three exams namely HSC(12th), Graduation, and Post-Graduation.

Results:

Reliability and Validity: The Cronbach Alpha for the data is found to be 0.905 (Ref. table 2). Similarly, the data related to the three subscales of EQ1, EQ2, and EQ3 were also found to be reliable. Further, it was found that all these three subscales are strongly correlated (Ref. table 3) indicating the good criterion validity to test the emotional Intelligence Quotient.

Table 2: Reliability Statistics

Reliability Statistics	
Cronbach's Alpha	N of Items
.905	56

Table 3 provides the results about the correlations. The correlation of the three subsets of emotional intelligence (EQ1, EQ2, and EQ3) with academic performance is studied along with the correlation between the overall emotional intelligence Quotient (EQ) and academic performance applying Pearson's Correlation test.

It was found that there is no correlation between the overall Emotional Intelligence Quotient (EQ) or its subsets and academic performance index. A person having higher Emotional Intelligence Quotient not necessarily may have a good academic score. This result is in alignment with Osipow & Walsh(1973), and McKelvie(1986)cited in Barchard(2003),Shipley(2010),Maria(2015), and Malik & Shahid(2016)

Then, there is sufficient evidence to reject the null hypothesis that there is no significant difference in academic performance and emotional intelligence of females and males. It was found that the emotional intelligence (EQ) and academic performance significantly varies with gender. The gender is positively correlated with Self Awareness quotient (EQ1), Social Awareness and Management Quotient (EQ3), and Overall Emotional Intelligence Quotient (EQ). Females have higher emotional intelligence quotient (EQ) and academic performance. The gender is positively correlated with academic performance index which indicates that females have higher academic performance than male. It is

interesting to note that females have positive correlation with emotional intelligence as well as academic performance. The significant emotional intelligence in females can be considered as tertiary component in their performance. This result is similar to that of Agrawal & S.K(2017) who too found higher level of emotional intelligence among females while it is opposite to Ahmed, et al.(2017)who found that males were more emotionally intelligent than their female counter parts.

We fail to reject the null hypothesis that age does not have any relationship with emotional intelligence. Interestingly the age and academic performance are negatively correlated as the age increases the academic performance is condensed. It indicates that aging of the person may diminish the ability of learning. It contrasts with who found that EI increases with age.

We reject the null hypothesis related to relationship between Emotional Quotient and Qualification, since there is enough evidence in favour of alternative hypothesis indicating positive relationship between Qualification and EQ2- Self management. Qualification and academic performance are negatively correlated. The scores in SSC, HSC is higher than scores in UG and PG level. This may be due to the intensity of exams being high in higher education compared to that in secondary and higher secondary education.

Table 3: Correlations

		Gender	Age Bracket	Qualification	EQ1	EQ2	EQ3	Overall EQ	Acad Perf. Index
Gender	Pearson Correlation	1	-.0108	-.0086	.195**	0.054	.181**	.167**	.194**
	Sig. (2-tailed)		0.079	0.161	0.001	0.377	0.003	0.006	0.001
	N	267	267	267	267	267	267	267	267
Age Bracket	Pearson Correlation	-.0108	1	.582**	0.078	0.110	-0.005	0.073	-.389**
	Sig. (2-tailed)	0.079		0.000	0.204	0.073	0.930	0.233	0.000
	N	267	267	267	267	267	267	267	267

Qualification	Pearson Correlation	-.086	.582**	1	0.061	.133*	0.054	0.101	-.346**
	Sig. (2-tailed)	0.161	0.000		0.319	0.030	0.376	0.101	0.000
	N	267	267	267	267	267	267	267	267
EQ1	Pearson Correlation	.195**	0.078	0.061	1	.596**	.522**	.830**	0.024
	Sig. (2-tailed)	0.001	0.204	0.319		0.000	0.000	0.000	0.695
	N	267	267	267	267	267	267	267	267
EQ2	Pearson Correlation	0.054	0.110	.133*	.596**	1	.553**	.863**	0.001
	Sig. (2-tailed)	0.377	0.073	0.030	0.000		0.000	0.000	0.986
	N	267	267	267	267	268	267	267	267
EQ3	Pearson Correlation	.181**	0.005	0.054	.522**	.553**	1	.824**	0.034
	Sig. (2-tailed)	0.003	0.930	0.376	0.000	0.000		0.000	0.584
	N	267	267	267	267	267	267	267	267
Overall EQ	Pearson Correlation	.167**	0.073	0.101	.830**	.863**	.824**	1	-0.005
	Sig. (2-tailed)	0.000	0.233	0.101	0.000	0.000	0.000		0.937
	N	267	267	267	267	267	267	267	267
Acad_Perf. Index	Pearson Correlation	.194**	-.389**	-.346**	0.024	-0.001	-0.034	-0.005	1
	Sig. (2-tailed)	0.001	0.000	0.000	0.695	0.986	0.584	0.937	
	N	267	267	267	267	267	267	267	267

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

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

Discussion:

Studies have been conducted to find the correlation between, i) overall emotional intelligence and academic performance, (Petrides, 2004; Agrawal & S.K.,2017);Suleman,2019) and ii) different dimensions or components of emotional intelligence and academic performance (Parker, 2004; Shipley,2010), MacCann,2020); Ahmed, et al.,2017).The methods and contexts used to measure the emotional intelligence also vary across the studies.

This study scrutinized the relationship between overall emotional intelligence and academic performance using a self-reporting Emotional Skills and Competence Questionnaire (ESCQ)and the relationship between the

three elements of emotional intelligence revealing mix results. Some of the findings are in alignment with the previous studies while others are in contrast. We found no correlation between emotional intelligence and academic performance which is similar to findings of Shipley(2010); Osipow & Walsh, 1973), and McKelvie, 1986 cited in Barchard(2003);Shipley(2010); Maria(2015), and Malik & Shahid(2016).But since the context across all these studies is not same , it needs further validation by more such studies in similar context. While Agrawal & S.K.(2017), Suleman Q, (2019), Chew, Zain, & Hassan(2013) found a significantly strong correlation between emotional intelligence and academic performance, Ahmed, et al.(2017)found a correlation between emotional intelligence and academic performance

in partial.

When it comes to relationship of gender and emotional intelligence, again we have mixed results. Agrawal & S.K.(2017) found higher level of emotional intelligence among females while Ahmed, et al.(2017) found that males were more emotionally intelligent than their female counter parts.

The general perception is that by studying the relationship between emotional intelligence and academic performance, it would be possible to decide whether, the students should be trained in emotional intelligence to improve their academic performance. But, there exist contrasting views. Post publication of the best seller book Emotional Intelligence by Goleman in 1995, although many people have accepted emotional intelligence as a new and exciting idea, others are not so convinced. Many researchers even doubt the legitimacy of the construct itself (Hedlund, 2000). Hedlund(2000) state that the problem with emotional intelligence is in its conceptualization and operationalization. It lacks a sound theoretical development and more suitable for improving the human behaviour thereby leadership qualities. The methods of measuring also vary according to context, indicating inconsistency. This study measured emotional intelligence through an online survey which is a limitation in terms of a not so sound sampling.

This study furthers the knowledge in the subject area, improving our understanding of the concept of EI and its relationship with academic performance though it warrants more studies in similar context. Studies can be conducted to relationship of emotional intelligence with academic performance across the contexts to validate the existing knowledge. More variable like location and profession etc can be included to study if they have any impact on emotional intelligence. Studies can also be conducted by using two or more approaches on the same subjects.

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