

Emotional Intelligence and Academic Achievement: A Study Among Students of a Private University in Malaysia

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Abstract There are many factors influencing a student's achievement in academic. One of the factors is emotional intelligence (EI). The relationship between EI and academic achievement was investigated in this study. The result showed that one of the EI components (i.e. use of emotion) is positively correlated to EI. The study also revealed that the female respondents scored lower than male respondents in EI mean score. However, the difference in EI between genders is not statistically significant. The difference in EI between years of study was also studied and it was found insignificant statistically. The results revealed an interesting finding that the respondents in this study, regardless of the years of study, self-reported that they are better in appraising their own emotions, but weaker in controlling their emotions.

Keywords Emotional intelligence • Academic achievement

1 Introduction

Good academic performance is undoubtedly a research after the heart of educational psychologists (Maraiachelvi and Rajan 2013). Factors influencing a student's ability to succeed in the classroom receive considerable attention from scholars, educators and government (Jaeger and Eagan 2007). In a research conducted by Sternberg (1998, as cited in Jaeger and Eagan 2007), the author found that conventional intelligence tests correlate at a respectable level (about 0.4–0.6) with school grades. However, these tests account for only small percentage (25 %) of the variation in individual performance, leaving the remaining of the variation unexplained (Stenberg 2008, as cited in Jaeger and Eagan 2007). Many researchers have conducted research in exploring the unexplained variance (Jaeger 2003, 2004; Parker et al. 2005; Rozell et al. 2002; Swart 1996 as cited in Jaeger and Eagan 2007). One of the factors found justifiable to explain the variance is emotional intelligence (EI). In a research exploring the impact of EI and general intelligence on individual

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performance conducted by Lam and Kirby (2002), the authors found that overall emotional intelligence, emotional perception and emotional regulation uniquely explained individual cognitive-based performance over and beyond the level attributable to general intelligence. According to Maraichelvi and Rajan (2013), EI is not, in itself, sufficient to create optimal outcomes for youth. However, the way of emotional intelligence being used, both by youth and those who support them, has a powerful effect on their lives.

The present study aims at studying the relationship between emotional intelligence (EI) and academic performance of tertiary students. The following research questions are addressed:

1. Is there any significant correlation between EI and the academic performance of tertiary students?
2. Is there any significant difference in the level of EI between male students and female tertiary students?
3. Is there any significant difference in the level of EI between years of study?

2 Literature Review

Emotional intelligence (EI) has received much attention as being more responsible for success than IQ since 1990s (Goleman 1995). Salovey and Mayer (1990) defined EI as one's ability to monitor feelings and emotion of self and others and use that information to guide one's own thinking and actions. EI is a type of social intelligence that involved the ability to monitor one's own and others' emotions, to discriminate among them and to use the information to guide one's thinking and actions (Salovey and Mayer 1990). The ability to recognise the meanings of emotions and their relationships, and to reason and problem solve on that basis, was the result of EI (Mayer et al. 2000).

The concept of emotional intelligence was defined and explained by different scholars in terms of models constructed from various emotional skills (Maliha and Rehana 2010). Caruso et al. (2002) divided these models into two types: ability models (Mayer and Salovey's model) and mixed models (Goleman's model and Bar-On's model). Mayer and Salovey (1997) proposed a four-branch model of emotional intelligence that includes the abilities to:

- (a) Accurately perceive emotions in oneself and in others.
- (b) Use emotions to facilitate thinking.
- (c) Understand emotions, emotional language and the signals conveyed by emotions.
- (d) Manage emotions so as to attain specific goals.

Goleman (2000) identifies four domains of emotional intelligence that comprise 20 competencies. The four major domains are Self-Awareness, Self-Management,

Social Awareness and Relationship Management. Bar-On (2006) developed the Bar-On EQ-i which is an inventory consists of five major components and 15 subscales of these components. The five composite scales include Intrapersonal Component, Interpersonal Component, Stress Management, Adaptability and General Mood.

Wong and Law (2012) developed the Wong and Law Emotional Intelligence Scale (WLEIS). The instrument contains 16 self-report items which were grouped in four subscales based on Mayer and Salovey model of EI (Wong and Law 2012). The four subscales are as follows:

- (a) Self-emotion appraisal (SEA): SEA is the person's ability to understand his/her own emotions and expressing these emotions in a natural manner.
- (b) Emotional appraisal of others (EAO): EAO is the person's ability to understand and perceive the emotions of others around them.
- (c) Use of emotion (UOE): UOE is the person's ability to make use of his/her emotions by guiding them to personal performance and productive activities.
- (d) Regulation of emotion (ROE): ROE is the person's ability to control their own emotions.

2.1 EI and Academic Achievement

Academic performance is often referred to as achievement or, alternatively, the level at which a person has learned to perform a particular skill (Mayer and Salovey 1997). There are many factors influencing the academic performance of students in classroom (Jaeger and Eagan 2007). In Ransdell's study (2001), she focused on predicting college success as measured by students' grade point averages (GPAs) and identified two categories of predictors: ability measures (include verbal ability and quantitative ability) and noncognitive variables (include interest in school, willingness to study, persistence, time spent on outside activities and encouragement from parents).

Some researchers (Vela 2003; Abdullah et al. 2004; Parker et al. 2004; Bastian et al. 2005; Marquez et al. 2006; Maliha and Rehana 2010; Ahammed et al. 2011; Walsh-Portillo 2011; Preeti 2013) have explored the possible relationship between EI and academic performance (also referred to as GPA, academic achievement and academic intelligence) (Jaeger and Eagan 2007) and their finding results are varied.

In Vela's study (2003), the author claimed that there was a significant correlation between Emotional Intelligence Quotient (EQ) and academic achievement. Other researchers including Abdullah et al. (2004), Parker et al. (2004), Marquez et al. (2006), Jaeger and Eagan (2007), Maliha and Rehana (2010), Walsh-Portillo (2011), Maraichelvi and Rajan (2013) and Preeti (2013) also claimed that there was a significant relationship between EQ level and students' academic achievement. On the

other hands, Bastian et al. (2005) and Ahammed et al. (2011) found that the correlation between EI and academic performance was not statistically significant.

Different EI instruments were used by the researchers in their studies in exploring the relationship between EI and academic performance. For instance, Vela (2003) used the EI instrument developed by Nelson and Low whereas Parker et al. (2004) and Maliha and Rehana (2010) used Bar-On's Emotional Quotient inventory (EQ-i:YV) in their research. Some other instruments used include Mayer-Salovey-Caruso Emotional Intelligence Test (Marquez et al. 2006), Adolescent Multifactor Emotional Intelligence Scale (Abdullah et al. 2004), Mangal and Mangal's EI Inventory (Maraichelvi and Rajan 2013) and Test of Emotional Intelligence (Preeti 2013).

The academic performance variable used by the authors is also different. Vela (2003), Parker et al. (2004), Jaeger and Eagan (2007), Ahammed et al. (2011) and Walsh-Portillo (2011) used grade point average (GPA) in their study, whereas some researchers used other measurements such as midterm academic results (Abdullah et al. 2004), coursework marks and final examination marks (Chew et al. 2013), tertiary entrance rank (Bastian et al. 2005) and cumulative grade point average (CGPA) (Maliha and Rehana 2010), perceived academic success (Ahammed et al. 2011) and final grades for certain subjects (Marquez et al. 2006; Durgut et al. 2013) and Academic Motivation Inventory (Preeti 2013).

In this study, we hypothesise that:

H1: There is a significant relationship between EI and academic performance in terms of GPA.

2.2 EI and Gender

In terms of gender difference, generally, women tend to be more emotionally expressive than men (Sanchez-Nunez et al. 2008). Harrod and Scheer (2005) found that there was a significant difference in the scores of males and females on emotional intelligence with females reporting higher EI level. Abdullah et al. (2004), Parker et al. (2004), Jaeger and Eagan (2007) and Walsh-Portillo (2011) also found that there was a difference between the EI scores of male and female. However, Katyal and Awasthi (2005) found that though females score higher in EI, difference was not as significant to be conclusive but only suggestive of the trend. Maliha and Rehana (2010) found that there was no difference in the mean EQ scores of male and female students.

In this study, we hypothesise that:

H2: There is a significant difference in the EI between male and female tertiary students.

2.3 *EI and Years of Study*

The research studies on the relationship between EI and academic achievement were conducted at different levels of study. Some of the researches were conducted at secondary level of study (Abdullah et al. 2004; Parker et al. 2004; Marquez et al. 2006; Preeti 2013) while some others were conducted at tertiary level of study (Vela 2003; Bastian et al. 2005; Jaeger and Eagan 2007; Ahammed et al. 2011, Durgut et al. 2013; Maraichelvi and Rajan 2013; Chew et al. 2013). At tertiary level of study, researches took place at different years of study, such as Jaeger and Eagan (2007) focused on first year tertiary students, Maraichelvi and Rajan (2013) focused on final year tertiary students and Chew et al. (2013) studied the relationship between EI and academic performance in first and final year medical students. Jaeger and Eagan (2007) found that EI is positively correlated to the academic performance of first year students. Maraichelvi and Rajan (2013) also found that EI is positively correlated to the academic performance of final year students. Chew et al. (2013) revealed that the total EI score was correlated to the final year medical students' academic performance but it was not correlated to the performance of first year students.

In this study, we hypothesise that:

H3: There is a significant difference in EI between years of study.

From the literature review, EI can be positively correlated with academic performance according to some researchers. However, there were some researchers who indicate contradictory empirical results that EI is not significantly correlated with EI. These contradictory empirical results do not provide educators or policymakers with a clear direction on how, and when, to consider EI in discussions of student academic performance. Additional research is warranted in examining the relationship between EI and academic performance.

3 Method

The present study follows a descriptive research design. Correlations analysis was used to determine the relationship between the variables. Three types of data were gathered, namely, demographical information, students' EI level and academic achievement in terms of grade point average (GPA) using a survey questionnaire.

Respondents for this study comprised of students at different year of study from a private education institution located in Klang Valley, Malaysia. Three hundred and thirty sets of questionnaire were collected. However, only 282 (or 85.45 %) questionnaires were fully completed and valid for data analysis. Convenience sampling method was used where the survey questionnaires were distributed to the participants who were willing to participate in the study in the campus of the private education institution. The questionnaires were collected after the participants have completed the questionnaires.

The instrument used to measure the EI level is Wong and Law Emotional Intelligence Scale (WLEIS). WLEIS was developed by Wong and Law in 2012. It contains of 16 (sixteen) self-report items which were grouped in four subscales which are self-emotion appraisal (SEA), emotional appraisal of others (EAO), use of emotion (UOE) and regulation of emotion (ROE). Each of these subscales is measured with four items or questions and the answers are categorised with a 7-point Likert scale of 1 being strongly disagree to 7 being strongly agree. Reliability analysis was conducted using SPSS Cronbach's alpha to check the reliability of the instrument. WLEIS was used in the study of Song et al. (2010) and Law et al. (2004) in China and they claimed that this scale is more appropriate for Chinese respondents than Western-developed EI scales.

Academic achievement is measured by using students previous semester grade point average (GPA). The classification was adopted from the university classification as outlined by the award board. The four classification categories are GPA between 3.67 and 4.00 (Excellent), GPA between 3.33 and 3.66 (Very Good), GPA between 2.67 and 3.32 (Good), GPA between 2.00 and 2.66 (Pass) and GPA between 0 and 1.99 (Fail).

Upon completion of the data collection, data analysis is done using SPSS v18. The questionnaires which were incomplete were filtered from the data analysis. Data analysis begins with assessing the overall fitness of data through Principal Component Analysis. It is followed by examining the reliability of each construct by evaluating Cronbach's alpha value. The hypotheses were examined by using Pearson Correlation, *t*-test and ANOVA.

4 Data Analysis

Table 1a indicates the results from Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Barlett's Test of Sphericity. The two tests help to determine the appropriateness of the factor model. A score of 0.898 from KMO indicates great level of fit of the model (Kaiser 1974). In addition, Barlett's Test of Sphericity indicates that the pairwise correlation is significant ($\chi^2 = 2714.351$; $df = 120$; $p = 0.000$). Based on the two tests, the set of data is adequate for factor analysis. Table 1b examines the construct validity by evaluating the factor loading within the construct. The factor loadings on the construct satisfied the benchmark of 0.5 as proposed by Hair et al. (1998). This indicates satisfactory item convergence on the intended construct. The construct reliability showed in Table 1c indicates that all factors in the measurement model were above 0.8, a good reliability according to Kline (1999).

Based on the sample of 282 respondents, 52.5 % are male and 47.5 % are female. Out of the 282 respondents, 82.6 % are Malaysian and 17.4 % are non-Malaysian. 50 % of the respondents are from business schools and 50 % of them are not from business school. In addition, 29.8 % of respondents are studying in their first year, 27.7 % are in their second year of study and 42.6 % of them are in the final year of study.

Table 2 depicts the mean for each components of EI being segregated by gender, while Table 3 depicts the mean for each components of EI being segregated by year of study. Table 4 shows the findings for hypotheses.

Table 1 Sample fitness, validity test and reliability test

(a) KMO and Barlett's Test						
Kaiser-Meyer-Olkin Measure of Sampling Adequacy						0.898
Barlett's Test of Sphericity	Approx. chi-square					2,714.351
	Df					120
	Sig.					0.000
(b) Factor loadings						(c) Cronbach's Alpha
Constructs	Rotated component matrix (a)					
	Component					
		1	2	3	4	
Emotional intelligence						
Self-emotion appraisal (SEA)	SEA1	0.849				0.833
	SEA2	0.843				
	SEA3	0.837				
	SEA4	0.811				
Emotion appraisal of others (EAO)	EAO1		0.822			0.848
	EAO2		0.820			
	EAO3		0.797			
	EAO4		0.736			
Use of emotion (UOE)	UOE1			0.810		0.882
	UOE2			0.807		
	UOE3			0.777		
	UOE4			0.758		
Regulation of emotion (ROE)	ROE1				0.775	0.906
	ROE2				0.756	
	ROE3				0.751	
	ROE4				0.607	

Table 2 Mean differences between male and female in each components of EI

Components of EI	Gender	N	Mean	Sd
EI as a whole	Male	148	5.1495	0.89923
	Female	134	4.9795	0.83101
Self-emotion appraisal (SEA)	Male	148	5.3159	0.96069
	Female	134	5.0634	1.05564
Emotion appraisal of others (EAO)	Male	148	5.0000	1.07499
	Female	134	5.1511	0.99577
Use of emotion (UOE)	Male	148	5.2128	1.17563
	Female	134	5.0224	1.17078
Regulation of emotion (ROE)	Male	148	5.0642	1.28609
	Female	134	4.6754	1.16578

Table 3 Mean differences between years of study in each components of EI

Components of EI	Gender	N	Mean	Sd
EI as a whole	First year of study	84	5.1839	0.92016
	Second year of study	78	4.9086	0.80988
	Third year of study	120	5.0922	0.86377
Self-emotion appraisal (SEA)	First year of study	84	5.2946	1.10527
	Second year of study	78	5.0705	0.98355
	Third year of study	120	5.2083	0.96326
Emotion appraisal of others (EAO)	First year of study	84	5.1339	1.12906
	Second year of study	78	4.9391	0.94679
	Third year of study	120	5.1146	1.03149
Use of emotion (UOE)	First year of study	84	5.2649	1.18178
	Second year of study	78	5.0032	1.25647
	Third year of study	120	5.1000	1.11399
Regulation of emotion (ROE)	First year of study	84	5.0357	1.20937
	Second year of study	78	4.6154	1.20314
	Third year of study	120	4.9417	1.27588

Table 4 Findings for hypotheses

Hypotheses		Results
H1	H1: There is a significant relationship between EI and academic performance in terms of GPA	Partially supported , where EI as a whole – not supported ($p > 0.01$) SEA – not supported ($p > 0.01$) EAO – not supported ($p > 0.01$) UOE – supported ($r = 0.186, p < 0.001$) ROE – not supported ($p > 0.01$)
H2	H2: There is a significant difference in the EI level between male and female tertiary students	Not supported ($p > 0.01$)
H3	H3: There is a significant difference in the level of EI between years of study	Not supported ($p > 0.01$)

5 Findings and Discussion

Based on Table 2, female students' EI mean score as a whole (mean=4.9795) is lower than EI mean score for male students (mean=5.1495). In terms of EI components, male students scored highest mean score on self-emotion appraisal (SEA) (mean=5.3159) and lowest mean score on emotion appraisal of others (EAO) (mean=5.000). However, female students scored highest mean score on emotion appraisal of others (EAO) (mean=5.1511). The lowest mean score that female students obtained is 4.6754 for regulation of emotion (ROE). Table 4 indicates that there was no significant difference between the EI of male and female students to that of academic achievement ($p < 0.0001$). The results were contradictory to the

literatures of Abdullah et al. (2004), Parker et al. (2004), Jaeger and Eagan (2007) and Walsh-Portillo (2011). However, this result is consistent with the study of Maliha and Rehana (2010), Abdullah (2006) and Petrides and Furnham (2000) which found that there was no difference in the mean EQ scores of male and female students. After analysing the research studies on gender differences in emotional intelligence, Sanchez-Nunez et al. (2008) concluded that the self-report- and performance-based measures of emotional intelligence provide different information. Women tend to self-report lower than they show to have in performance tests. Sanchez-Nunez et al. (2008) explained that women tend to underestimate themselves and men tend to overestimate themselves as regards their emotional skills. Perhaps this can explain why female students' EI mean score as a whole (mean=4.9795) is lower than EI mean score for male students (mean=5.1495) in this study.

Based on Table 3, the mean scores on EI as a whole obtained by first year, second year and third year students are 5.1839, 4.9086 and 5.0922, respectively. In terms of EI components, first year students obtained higher mean score on self-emotion appraisal (SEA) (mean=5.2946) and the lowest mean score on regulation of emotion (ROE) (mean=5.0357). Second year students also obtained the highest mean score on self-emotion appraisal (SEA) (5.0705) and the lowest mean score on regulation of emotion (ROE) (mean=4.6154). The same trend applied on third year students where the mean score obtained by third year students is on self-emotion appraisal (SEA) (mean=5.2083) and on regulation of emotion (ROE) (mean=4.9417). Based on the result, it was found that the students in this private university, regardless of the years of study, self-reported that they are better in understanding their own emotion and expressing these emotions in a natural manner, but weaker in controlling their own emotions.

This study also found that there was no significant difference between the EI to that of years of study (Table 4). This finding is different from the study of Chew et al. (2013) who found that the total EI score was related to the final year students' academic performance but not to the performance of first year students. According to Harrod and Scheer (2005), other demographic characteristics such as sex, mother's education, father's education and household income attribute to EI differences. In other words, the year of study might not be the sole demographic characteristic in explaining the EI differences.

As shown in Table 4, there is no significant relationship between EI as a whole and academic achievement. This is consistent with Bastian et al. (2005) and Ahammed et al. (2011) who found that the correlation between EI and academic performance was not statistically significant. In terms of EI components, however, it can be seen that use of emotion (UOE) has a significant relationship between academic achievements. According to the results, academic achievement is positively related to UOE ($r=0.186$, $p<0.001$). This relationship, however, was relatively weak. UOE is the person's ability to make use of his/her emotions by guiding them to personal performance and productive activities. According to Salovey and Mayer (1990), individuals differ in their ability to harness their own emotions in order to solve problems. Mood and emotions subtly but systematically influence

some of the components and strategies involved in problem-solving. Salovey and Mayer (1990) proposed that individuals who are able to use emotion tend to be more creative and flexible in arriving at possible alternatives to problems. They are also more apt to integrate emotional considerations when choosing among alternatives.

In the private university where this study was carried out, the module assessment generally comprises of 50 % continuous assessment and 50 % formative assessment. Students, who are good in use of emotion, as explained by Salovey and Mayer (1990), would be more creative and flexible in arriving possible solutions in completing the continuous assessment (for instance, seeing module leaders for guidance, getting advice from seniors, etc.), hence allowing them to perform better academically. Perhaps this could explain why UOE has a significant relationship between academic achievements in this study. However, further research needs to be done to find out more.

6 Conclusion, Limitations and Future Research

This study concludes that there is a significant relationship between one EI component (i.e. UOE) and academic achievement, but no significant relationship between overall EQ level and academic achievement in terms of GPA.

The university administrators and educators who would like to see better academic achievement of students are recommended to focus on guiding students on the use of emotions. For instance, students should be guided on how to capitalise on the capacity of emotional processes to refocus attention on the most important stimuli in their learning environment. Perhaps some interventions should be introduced to help students to reprioritise the internal and external demands on their attention and allocate attentional resources accordingly (Salovey and Mayer 1990). Emotions can be also used to channel the anxiety created by evaluative situations (such as tests) to motivate students to prepare more thoroughly and attain more exciting standards (Alpert and Haber 1960, as cited in Salovey and Mayer 1990).

This study also found that there is no difference between genders in EI. As what Sanchez-Nunez et al. (2008) claimed, women tend to underestimate themselves and men tend to overestimate themselves as regards their emotional skills in the self-report-based measures of EI. In this study, the instrument used to measure the EI level is Wong and Law Emotional Intelligence Scale (WLEIS), which is a self-report-based measure of EI. Perhaps this could provide the explanation why female students' EI mean score as a whole (mean=4.9795) is lower than EI mean score for male students (mean=5.1495), and therefore, there is no significant difference between genders in EI in this study. In future research, perhaps performance-based measures of EI should be used in measuring the EI level of respondents. In addition, more studies need to be carried out to test whether WLEIS is appropriate in measuring the EI of Malaysian. This is because so far the researchers who claimed that WLEIS was appropriate in measuring EI conducted their research in China.

This study also found that there is no difference between years of study in EI. This research has only considered samples from one private university in Klang Valley. Extension of sampling scope to other universities around the country may yield a more comprehensive reasoning to inconsistencies found in the results above. Additional variables such as maturity level and parental intervention or involvement could also be inserted into the model for further research in search for a better understanding of differences in culture, in particular the Asian culture. A longitudinal study across different universities is suggested in order to better capture the development of students' emotional intelligence. Other demographic characteristics such as parents' education level and household income should be included in future study. In terms of EI component, there is an interesting finding that the students, though study in different years, scored highest mean on self-appraisal of emotion (SEA) and lowest on regulation of emotions (ROE). Further research can be conducted to see whether the same trend applies on Generation Y as a whole.

References

- Abdullah, M. C., Elias, H., Mahyuddin, R., & Uli, J. (2004). Emotional intelligence and academic achievement among Malaysian secondary students. *Pakistan Journal of Psychological Research*, *19*(3-4), 105-121.
- Ahamed, S., Abdullah, A., & Hassane, S. (2011). The role of emotional intelligence in the academic success of United Arab Emirates University Students. *International Education*, *41*(1), 7-25.
- Bar-On, R. (2006). The Bar-On model of emotional-social intelligence (ESI). *Psicothema*, *18*, 13-25.
- Bastian, V. A., Burns, N. R., & Nettelbeck, T. (2005). Emotional intelligence predicts life skills, but not as well as personality and cognitive abilities. *Personality and Individual Differences*, *39*, 1135-1145.
- Casura, D. R., Mayer, J. D., & Salovey, P. (2002). Relation of an ability measure of emotional intelligence to personality. *Journal of Personality Assessment*, *79*(2), 306-320.
- Chew, B. H., Zain, A. M., & Hassan, F. (2013). Emotional intelligence and academic performance in first and final year medical students: A cross-sectional study. *BMC Medical Education*, *13*, 44.
- Durgut, M., Gerekan, B., & Pehlivan, A. (2013). The impact of emotional intelligence on the achievement of accounting subject. *International Journal of Business and Social Science*, *4*(13), 64-71.
- Goleman, D. (1995). *Emotional intelligence*. New York: Bantam Books.
- Goleman, D. (2000). An EI-based theory of performance. In D. Goleman & C. Cherniss (Eds.), *The emotionally intelligent workplace: How to select for, measure, and improve emotional intelligence in individuals, groups, and organizations*. San Francisco: Jossey-Bass.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis* (5th ed.). Upper Saddle River: Prentice Hall.
- Harrod, N. R., & Scheer, S. D. (2005). An exploration of adolescent emotional intelligence in relation to demographic characteristics. *Adolescence*, *40*(159), 503-512.
- Jaeger, A. J., & Eagan, M. K. (2007). Exploring the value of emotional intelligence: A means to improve academic performance. *National Association of Student Personnel Administrators Journal*, *44*(3), 512-537.
- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, *39*, 31-36.
- Katyal, S., & Awasthi, E. (2005). Gender differences in emotional intelligence. *Journal of Human Ecology*, *12*(2), 153-155.

- Kline, P. (1999). *The handbook of psychological testing* (2nd ed.). London: Routledge.
- Lam, L. T., & Kirby, S. L. (2002). Is emotional intelligence an advantage? An exploration of the impact of emotional and general intelligence on individual performance. *The Journal of Social Psychology, 142*(1), 133–143.
- Law, K., Wong, C., & Song, L. (2004). The construct and criterion validity of emotional intelligence and its potential utility for management studies. *Journal of Applied Psychology, 89*(3), 483.
- Maliha, N., & Rehana, M. (2010). An exploration of emotional intelligence of the students of IIUI in relation to gender, age and academic achievement. *Bulletin of Education and Research, 32*(1), 37–51.
- Maraichelvi, A., & Rajan, S. (2013). The relationship between emotional intelligence and the academic performance among final year undergraduates. *Universal Journal of Psychology, 1*(2), 41–45.
- Marquez, P. G.-O., Martin, R. P., & Brackett, M. A. (2006). Relating emotional intelligence to social competence and academic achievement in high school students. *Psychotherma, 18*, 118–123.
- Mayer, J. D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. Sluyter (Eds.), *Emotional development and emotional intelligence: Implications for educators* (pp. 3–31). New York: Basic Books.
- Mayer, J. D., Caruso, D. R., & Salovey, P. (2000). Emotional intelligence meets traditional standards for an intelligence. *Intelligence, 27*(4), 267–298.
- Parker, J. D. A., et al. (2004). Academic achievement in high school: Does emotional intelligence matter? *Personality and Individual Differences, 37*, 1321–1330.
- Petrides, K. V., & Furnham, A. (2000). Gender differences in measured and self-estimated trait emotional intelligence. *Sex Roles, 42*, 449–461.
- Preeti, B. (2013). Role of emotional intelligence for academic achievement for students. *Research Journal of Educational Sciences, 1*(2), 8–12.
- Ransdell, S. (2001). Predicting college success: The importance of ability and non-cognitive variables. *International Journal of Educational Research, 35*, 357–364.
- Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition and Personality, 9*(3), 185–211.
- Sanchez-Nunez, M. T., Fernandez-Berrocal, P., Montanes, J., & Latorre, J. M. (2008). Does emotional intelligence depend on gender? The socialisation of emotional competencies in men and women and its implications. *Electronic Journal in Research in Educational Psychology, 6*(2), 455–474.
- Song, L. J., et al. (2010). The differential effects of general mental ability and emotional intelligence on academic performance and social interactions. *Intelligence, 38*, 137–143.
- Vela, R. H. J. (2003). *The role of emotional intelligence in the academic achievement of first year college students*. Doctoral dissertation, Texas A&M University-Kingsville.
- Walsh-Portillo, J. G. (2011). *The role of emotional intelligence in college students' success*. FIU electronic theses and dissertations. [Online] Available at: <http://digitalcommons.fiu.edu/etd/491>. Accessed 29 Aug 2014.
- Wong, C. S., & Low, K. S. (2012). The effects of leader and follower emotional intelligence on performance and attitude: An exploratory study. *Leadership Quarterly, 13*, 243–274.