Assessing the Emotional Intelligence and Academic Performance of Quantity Surveying Students'

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Previous studies have established that Emotional Intelligence (EI) has an effect on the performance of students. EI of construction students has been found to be lower than their counterparts in other disciplines. These studies, however did not evaluate the EI in relation to performance. Thus this creates a gap with regards to the relationship of EI and the academic performance of construction students. Therefore, this study assessed the emotional intelligence and academic performance among quantity surveying students. Data were collected by means of closed–ended questionnaires, which were administered online. Data gathered were analysed using descriptive (Mean, Frequency and Standard Deviations) and inferential (Analysis of Variance) statistics through the use of Statistical Package for the Social Sciences (SPSS software). The 16-item Wong and Law Emotional Intelligence Scale was used to evaluate the level of emotional intelligence and explore the effect on academic performance. The results of the study indicated that quantity surveying students have a high level of EI, and a significant difference was found between students EI and academic performance. Students with higher Academic performance were found to have higher level of Self-Emotion Appraisal (SEA) and Use of Emotions (UOE). However, the results did not show a significant difference under Others' Emotion Appraisal (OEA) and Regulation of Emotions (ROE). Thus this study concluded that EI of quantity surveying students gave an indication of the level of academic performance (CGPA) and therefore recommends that EI should be incorporated into academic curricula to improve the EI level of construction students.

Keywords: Construction Disciplines, Emotional Intelligence, Performance, Quantity Surveying, Students

INTRODUCTION

Built environment education has traditionally focused on preparing students with strong technical, analytical and management skills for professional careers in the construction environment. Past research indicates that built environment students graduate from university with good technical skills but lack rudimentary management and leadership skills (Mo & Dainty, 2007). However, human resource practitioners place value on selecting and training a more emotionally intelligent workforce (Mattingly & Kraiger, 2018). According to Joshi *et al*. (2012), emotional intelligence is increasingly being recognized as a measure of overall performance across various fields. EI refers to the ability to identify and express emotions, understand emotions, assimilate emotions in thought, and regulate positive and negative emotions in oneself and others (Salovey & Mayer,1990).

It is important that built environment curricula should include a concentration on positive interaction and healthy emotional development to help students to acquire and develop such personal qualities as optimism, empathy and understanding (Owusu-Manu *et al*., 2018). However, many university students

have challenges in the acquisition of interpersonal skills, emotional skills, self-awareness and impulse control (Sandy *et al*., 2012). This is also true even for academically bright students as evident in the workplace interaction of newly graduated students (Tabish & Jha, 2012). In addition, Jan and Anwar (2019) found high EI levels in students result in more self-confidence when dealing with the challenges of living and learning in educational institutions as well as aid in the learning process and consequently improving the academic performance of students.

Previous studies have shown that EI has effect on the academic performance of students (Nwadinigwe & Azuka, 2012; Iruloh & Ukaegbu, 2015; Zembylas, 2017; Owusu-Manu *et al*., 2018; Jan & Anwar, 2019; Halimi *et al*., 2020). However, EI of construction students has been found to be lower than their counterparts in other disciplines (Chinowsky & Brown, 2004; Mo, 2009). In particular, Musa (2018) found that the EI level of Quantity Surveying students is low. Thus it becomes imperative to assess the emotional intelligence of quantity surveying students in relation to their academic performance.

LITERATURE REVIEW

Concept of Emotional Intelligence

Emotional intelligence has its roots in social intelligence. This construct was originally introduced in the work of Thorndike (1920), who described it as "the ability to understand and manage men and women, boys and girls–to act wisely in human relations". However, Salovey and Mayer (1990) were among the earliest to differentiate EI from IQ and described the concept of EI as a portion of social intelligence that requires people to monitor their own feelings as well as the feelings of others for a better judgment and decision-making. In 1990, Salovey & Mayer defined the term "Emotional Intelligence as a 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*"*. This was the very first definition of EI which was then re-defined in 1997 and it stated EI as, "the ability to perceive and express emotion, assimilate emotion in thought, understand and reason with emotion and regulate emotion in self and others" (Mayer *et al.*, 2000). Also, other Scholars have defined EI in varying dimensions. This has led to the existence of a different school of thought on emotional intelligence. The predominant models of EI are the Ability Model, the Mixed Model and the Trait Model EI. However, all these EI models share a common core of basic concepts, thus denoting EI generally as the ability to recognize and regulate emotions in one's self and in others. Based on this, four major EI domains can be established, namely: Self-Awareness (SA), Self-Management (SM), Social Awareness (SoA), and Relationship Management (RM). These four domains are shared by all the main variations of EI theory, though the terms used to refer to them differ. Furthermore, there is a general consensus with regards to the ability of EI in the prediction of success and the potential to improve EI abilities/ competencies by all the different schools of EI (Newton & Bristoll, 2014). Goleman (1995) defined Self-Awareness as the ability to recognise and understand personal moods, emotions and drives, as well as their effect on others, while Self-Management refers to the ability to control or redirect disruptive impulses and moods, and the propensity to suspend judgment and to think before acting. Goleman further explains that Social Awareness is the ability to understand the emotional makeup of other people, while Relationship Management is the proficiency in managing relationships and building networks and an ability to find common ground and build rapport.

Emotional Intelligence and Students' Performance

The concept of academic success has generally been associated with the attainment of summative assessments, as stipulated by learning outcomes (York *et al*., 2015). Previous studies have shown varied findings with respect to the relationship between academic achievement and EI with some researchers linking EI with academic success (Parker *et al.*, 2004; Song *et al.*, 2010; Tapia & Marsh, 2006; Halimi *et al.*, 2020). Conversely, O'Connor and Little, (2003). Parker *et al.* (2004) and Rode *et al*. (2007) stated that there is no correlation between EI and Grade Point Average (GPA) of students. Another study conducted by Ransdell (2001) focused on predicting college success as measured by GPAs. The findings suggested two categories of predictors as follows: ability measures (including verbal and quantitative ability) and non-cognitive variables (including interest in school, willingness to study, persistence, time spent on outside of school activities and encouragement from parents). A study by Gelso and Fretz (2001) found that self and social awareness enabled high-school students to make their career choices and career success. Rivers *et al.* (2012) concluded that students scoring high in EI were less likely to report negative attitudes toward their schools or their teachers.

Few studies exists for construction students such as that of Mo (2009) which measured the EI of undergraduates from a range of construction disciplines such as Civil Engineering, Construction Engineering Management, Architectural Engineering and Design Management and Commercial Management and Quantity Surveying. The results revealed that construction students' EI is not high relative to other professions. Also, Chinowsky and Brown (2004) revealed that the EI in civil engineering students is lagging behind in comparison to liberal arts students. However, Livesey (2016) found out that high performing teams of architectural students consisted of all members having at least an average level of EI competence. Livesey (2016), Oke *et al*. (2017) and Konanahalli and Oyedele (2016) acknowledged that students with high EI would be better prepared to handle emotional outburst due to high stress in practice as well as ensure efficient team working.

Constructs used in the study are listed below: EI: Emotional Intelligence; OEA: Others' Emotion Appraisal; ROE: Regulation of Emotions; SEA: Self-Emotion Appraisal; UOE: Use of Emotions; and WEIS: Wong's Emotional Intelligence scale.

RESEARCH METHODOLOGY

The study adopted a quantitative research approach due to the nature of the research problem and the data needed. It involves the collection and analysing numerical data. Data were collected using structured questionnaires from 200 to 500 level undergraduate quantity surveying students of an institution in North West Nigeria. The total population of the study obtained from the Examinations Office was 418, as shown in Table 1.

Table 1: Total population of the study

Level	Number
200	97
300	102
400	114
500	105
TOTAL	**418**

Stratified random sampling was adopted to obtain an equal representation of each class. A total number of 31, 32, 35 and 33 arrived as the sample sizes of 200, 300, 400 and 500 level students respectively, using Krejices and Morgan (1970) sampling formula.

The research involved the use of a well-structured online questionnaire survey designed in Google forms. The questionnaire consisted of two sections (sections A and B). Section A consisted of Demographic information about the respondents, Section B consisted of Measures of Emotional Intelligence based on Wong's Emotional Intelligence scale (WEIS) which is a self-report Emotional intelligence measure developed by Wong *et al*. (2007). WEIS scale consists of 16 items and is based on the four ability dimension of emotional intelligence. The items were assessed based on a 5 point Likert scale where 1 = Strongly disagree, 2 =Disagree, 3 =Somewhat agree, 4 = Agree and 5 = Strongly agree.

All statistical analyses were done using Statistical Package for the Social Sciences (SPSS) Version 22. The Descriptive Statistics method was used to analyze the data and information obtained such as the frequency, percentages, mean and standard deviation. Data collected was also subjected to a one-way analysis of variance (ANOVA) to compare the Emotional Intelligence and academic performance of quantity surveying students. The study is based on the four branch ability model of emotional intelligence, which is the self-emotion appraisal, Others' emotion appraisal, Use of emotion and Regulation of emotion.

RESULTS

Table 2 shows the respondent's level and the performance according to the established classification of GPA in higher institution. 27.1% of the respondents are from 200 level, 19.4% of the respondents are from 300 level, 19.4% are from 400 level, and 34.1% of the respondents were from 500 level. The table also shows the CGPA of the respondents; for the purpose of this study, the academic performance is classified according to the standard classification of degrees and is labelled as follows;

i. 0.00 - 1.5 : **Poor**
ii. 1.50 - 2.49 : **Fair**
iii. 2.50 - 3.49 : **Average**
iv. 3.50 - 4.49 : **Good**
v. 4.50 - 5.00 : **Excellent**

As shown in Table 2, 2.3% of the respondents' have poor performance, 24.8% have fair performance, 44.2% of the responds' have average performance, 26.4% have good performance, and 2.3% of the have excellent performance.

Table 2: Summary of Demographic information of Respondents

Demographic Information		Frequency	Percentage %
LEVEL	200	35	27.1
	300	25	46.5
	400	25	65.9
	500	44	34.1
	Total	**129**	**100**
CGPA	<1.5	3	2.3
	1.5-2.4	32	24.8
	2.5-3.4	57	44.2
	3.5-4.4	34	26.4
	4.5-5.0	3	2.3
	Total	**129**	**100**

Table 3 shows the assessment of students' emotional intelligence. The total EI is measured using 16 items which are categorised into the four (4) EI clusters namely: self-emotion appraisal (SEA), others' emotion appraisal (OEA), use of emotions (UOE) and regulation of emotions (ROE). Each of the clusters have four items scored on a 5-point likert scale of which the average was obtained. The average scores for the four clusters are 3.81, 3.50, 3.82 and 3.75 for Self-emotion appraisal (SEA) Others' emotion appraisal (OEA), Use of emotions (UOE) and Regulation of emotions respectively. This consequently translate to an overall average of 3.71. The results were interpreted based on Ruikar *et al.* (2006) classification of average means scores as follows;

i. 0-2.5 : Low
ii. 2.5-3.4: Average
iii. 3.5-5.0: High

Thus, all the 16 items measured are seen to be high except for two (2) items of the OEA. Which fall in the category of the 'average" classification. The results further shows that the four EI clusters and the total EI are high.

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Table 3: Emotional Intelligence Assessment of Students

S\N	Measures of emotional intelligence	Number	Mean	Std. Deviation
	Self-emotion appraisal (SEA)			
1	I have a good sense of why i feel certain feelings most of the time.	129	3.61	1.134
2	I have a good understanding of my own emotions.	129	3.84	1.124
3	I really understand what i feel.	129	3.73	1.197
4	I always know whether i am happy or not.	129	4.12	1.094
	Average		**3.81**	**1.143**
	Others' emotion appraisal (OEA)			
5	I always know my "friends' emotions from their behavior .	129	3.40	1.035
6	I am a good observer of "others' emotions.	129	3.54	1.097
7	I am sensitive to the feelings and emotions of others.	129	3.47	1.061
8	I have a good understanding of emotions of people around me.	129	3.53	1.000
	Average		**3.50**	**1.047**
	Use of emotions (UOE)			
9.	I always set goals for myself and then try my best to achieve them.	129	3.76	1.088
10	I always tell myself i am a competent person.	129	3.81	1.173
11	I am a self-motivating person.	129	3.81	1.054
12	I would always encourage myself to try my best.	129	3.95	0.951
	Average		**3.82**	**1.073**
	Regulation of emotions			
13	I am able to control my temper so that i can handle difficulties rationally.	129	3.93	1.084
14	I am quite capable of controlling my own emotions.	129	3.78	1.16
15	I can always calm down quickly when i am very angry.	129	3.51	1.200
16	I have good control of my emotions.	129	3.81	1.088
	Average		**3.75**	**1.096**
	Total EI		**3.71**	**1.060**

Students Level of EI and Academic Performance

ANOVA test was carried out at two levels between students EI and academic performance. First, between the four (4) EI clusters and performance and then between total EI and performance. The results are shown in Tables 4 to 7.

Table 4 shows the average mean score of EI according to their academic performance. The table shows that students with excellent performance have the highest mean score in all the four sections of EI (SEA, OEA, UOE and ROE) and students with poor performance have the lowest mean score in all the four clusters of EI. The table also shows that the students' SEA and UOE have significant differences with the academic

performance with significant values of 0.004 and 0.010 respectively.

Table 4: Comparing Students' EI according to their Academic performance

	POOR (0.00-1.49)	FAIR (1.50-2.49)	AVERAGE (2.50-3.49)	GOOD (3.50-4.49)	EXCELLENT (4.50-5.00)	Sig.
SEA	3.00	3.56	3.98	4.24	5.00	.004
OEA	3.00	3.72	3.54	3.79	4.33	.232
UOE	2.67	3.69	3.96	4.29	4.33	.010
ROE	3.00	3.69	3.89	3.97	4.33	.258

The mean difference is significant at the 0.05 level.

Table 5 shows that the significant difference occur between students with good performance and those with fair performance for the SEA cluster, and between students with good and poor\fair performance for the UOE cluster. This signifies that students with good performance have higher ability of SEA and UOE than students with poor and fair performance.

Table 5: Post-Hoc test on Students EI and Academic performance

						95% Confidence Interval	
Dependent Variable	**(i)CGPA**	**(J)CGPA**	**Mean Difference (I-J)**	**Std. error**	**Sig.**	**Lower Bound**	**Upper Bound**
SEA	GOOD	POOR	1.235	0.553	0.068	0.21	2.68
		FAIR	.673*	0.226	0.027	0.08	1.26
		AVERAGE	0.253	0.199	0.704	-0.27	0.77
		EXCELLENT	-0.765	0.549	0.633	-2.28	0.75
UOE	GOOD	POOR	1.627*	0.552	0.030	0.19	3.07
		FAIR	.607*	0.266	0.060	0.02	1.19
		AVERAGE	0.329	0.199	0.459	-0.19	0.85
		EXCELLENT	-0.039	0.549	1.000	-1.56	1.48

* The mean difference is significant at the 0.05 level.

The result on Table 6 shows that there is a significant difference between total EI and academic performance based on the CGPA with a significance value of 0.001.

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Table 6: Comparing total EI scores and academic performance of students

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	8.971	4	2.243	4.809	0.001
Within Groups	57.835	124	0.466		
Total	66.806	128			

*The mean difference is significant at the 0.05 level.

Table 7 shows the result of a Post Hoc test which revealed that the significant difference occur between students with good performance and those with poor performance and between students with excellent and poor\fair performance.

Table 7: Post-Hoc test on total EI scores and academic performance of students

(I) CGPA	(J) CGPA	Mean Difference (I-J)	Std. Error	Sig.
GOOD	POOR	1.235*	0.411	0.026
	FAIR	0.423	0.168	0.094
	AVERAGE	0.183	0.148	0.731
	EXCELLENT	-0.765	0.411	0.345
EXCELLENT	POOR	2.000*	0.558	0.004
	FAIR	1.188*	0.412	0.037
	AVERAGE	0.947	0.405	0.139
	GOOD	0.765	0.411	0.345

* The mean difference is significant at the 0.05 level.

DISCUSSION OF RESULTS

This study found that the EI of studuents predicted the academic performance of quantity surveying undergraduate students which supported the findings of previous studies in several disciplines such as medical as reported by Partido and Starfford (2020) and Altwijri (2021) but contradicting the findings of Costa *et al*. (2022) that EI does not influence the average academic performance of accounting students. Furthermore, the study found that quantity surveying students have a high level of EI which contradicted the findings of Musa (2018) that found Quantity surveying students to have low level of emotional intelligence; this can be as a result of the instrument which was based on the ability EI model. Although this study found out that students of quantity surveying have high EI, the total average EI score is 3.71 which is closer to the lower boundary of the "High" category, thus the need for improvement. This may suggest that students' EI in construction disciplines is not as high as those obtained in other disciplines, as reported by Mo (2009) and Chinowsky and Brown (2004) in their studies.

This study also found a significant difference between students EI and academic performance in two (2) clusters of Emotional intelligence (SEA & UOE) which supported the findings of Halimi *et al.* (2020). This demonstrates that students had developed their sense of self-worth and were able to use their emotions to facilitate their cognitive development. However, the findings on academic performance with the overall level of EI showed a contrasting result with that of Halimi *et al.* (2020) but similar to those of Parker *et al.* (2004) and Petrides *et al.* (2004) whose findings showed strong relationships between CGPA and overall levels of EI.

Thus, EI skills appear to be an important predictor of academic success: the greater the EI, the higher the academic achievement by the significant difference revealed between students with good and those with poor performance and between students with excellent and those with Poor\Fair performance. The results of this study support findings from previous studies that improving students' EI will improve their academic performance.

CONCLUSION AND RECOMMENDATIONS

In conclusion, the study revealed that EI has an effect on academic performance of quantity surveying students. This shows that students with higher academic performance have a better ability to understand, perceive, monitor and use their emotions which may lead them to a feeling of stability and peace of mind, this positively influences their emotional state and motivates them to have higher academic performance. However the average EI is at the lower threshold of high implying the need for improving the students' EI to ensure excellent academic performance.

Based on the findings, this study recommends that the EI of quantity surveying students should be developed and improved by incorporating EI in their curricula. Also, this study was based on a sample from quantity surveying students from a single institution thus, further studies can be carried out to include other students in construction disciplines as well as from multiple institutions.

REFERENCES

Altwijri, S., Alotaibi, A., Alsaeed, M., Alsalim, A., Alatiq, A., Al-Sarheed, S., ... & Omair, A. (2021). Emotional Intelligence and its Association with Academic Success and Performance in Medical Students. *Saudi Journal of Medicine & Medical Sciences*, 9(1), 31.

Chinowsky, P. S. & Brown, H. (2004). *The development of successful*

intelligence in construction education. Proceedings of the paper presented at the 20th Annual Conference of the Association of Researchers in Construction Management, Herriot Watt University.

Costa, L. C., de Gomes, D. G., Fernandez, R. N. & da Silva Zonatto, V. C. (2022). Emotional intelligence, achievement goals, and academic performance: A study with undergraduate students of accounting sciences. *Contabilidade Vista & Revista*, *33*(1), 170-194.

Gelso, C. & Fretz, B. (2001). *Counseling Psychology* (2nd Ed.). Belmont, CA: Wadsworth

Goleman, D. (1995). *Emotional intelligence*. London: Bloomsbury Publishing.

Goleman, D., Boyatiz, R.E. & Rhee, K.S. (2000). Clustering competence in emotional intelligence: Insights from the emotional competence inventory. In R. Bar-On and J.D.A. Parker (Eds.). *Handbook of Emotional Intelligence* (pp.343-362). San Francisco: Jossey-Bass.

Halimi, F., Alshammari, I. & Navarro, C. (2020). Emotional Intelligence and Academic achievement in higher education. *Journal of Applied Research in Higher Education, 19*.

Iruloh, B.R.N. & Ukaegbu, H.M. (2015). Big five personality traits as predictors skills requirement of engineering postgraduates. *Civil and Structural Engineering Education in 21st Century*, 2, 423-434.

Joshi, S. V., Srivastava, K. & Raychaudhuri, A. (2012). A descriptive study of emotional intelligence and academic performance of MBBS students. *Procedia-Social and Behavioral Sciences*, 69, 2061-2067.

Konanahalli, A. & Oyedele, L. (2016). Emotional intelligence and british expatriates cross-cultural adjustment in international construction projects *Construction Management and Economics*, *31*(11), 751-768. Retrieved from http://eprints.uwe.ac.uk/30192

Krejcie, R. V. & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, 30(3), 607-610.

Livesey, P. V. (2016). *The role of emotional intelligence in the management of large construction projects.* Unpublished Doctor of Philosophy thesis.

Mattingly, V. & Kraiger, K. (2018). *Can emotional intelligence be trained? A meta analytical investigation*. HumanResourceManagementReview, https://doi.org/10.1016/j.hrmr.2018.03.002

Mayer, J. D., Caruso, D. & Salovey, P. (2000). Emotional intelligence meets traditional standards for an intelligence. *Intelligence, 27*(4), 267-298. doi:10.1016/s0160-2896(99)00016-1.

Mo, Y. & Dainty, ARJ. (2007). Measuring and enhancing the emotional intelligence of construction management students: an empirical study. *Journal of Education in Built Environment, 2(1)*, 37-51.

Mo, Y. (2009). *Measuring And Enhancing the Emotional Intelligence of Built Environment Students.* Unpublished Doctoral Thesis, Loughborough University

Musa, J. (2018). *An appraisal of emotional intelligence of*

Quantity Surveying Students. Unpublished thesis, Department of Quantity Surveying, Ahmadu Bello University, Zaria.

Newton, P. & Bristoll, H. (2014). *Understanding Emotional Intelligence* (pp. 50). Retrieved from http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwjK9OOiwq_PAhWqCcAKHZNsDD4QFggeMAA&url=http%3A%2F%2Fwww.free-management-ebooks.com%2Fdldebk-pdf%2Ffme-understanding-emotional-intelligence.pdf&usg=AFQjCNH8rdedH5sTtlgWpLhvE6UdpDjizA&sig2=Ln9vG27QHqUuq80W4e_5lw

Nwadinigwe, I. P. & Azuka-Obieke, U. (2012). The impact of emotional intelligence on academic achievement of senior secondary school students in Lagos, Nigeria. *Journal of Emerging Trends in Educational Research and Policy Studies, 3(4),* 395–401.

O'Connor, R.M. Jr. & Little, I.S.S. (2003). Revisiting the predictive validity of emotional intelligence: self-report vs ability-based measures. *Personality and Individual Differences*, 35(8), 1893-1902.

Oke, A. E., Aigbavboa, C. O. & Sepuru, M. (2017b). *Benefits of Emotional Intelligence to Construction Industry: A Case of Gauteng Region, South Africa*. Proceedings of the paper presented at the Environmental Design and Management International Conference, Ile-ife, Osun State, Nigeria.

Owusu-Manu, D., Edwards, D.J., Kukah, A.S., Parn, E.A., El-Gohary, H. & Aigbavboa, C. (2018). An assessment of the level of emotional intelligence attributes of undergraduate built environment students in developing countries. *Industry and Higher Education*. DOI: 10.1177/0950422218798551.

Parker, J.D.A., Creque, R.E., Barnhart, D.L., Majeski, S.A, Hogan, M.A. & Wood, L.M. (2004). Achievement in high school: does emotional intelligence matter? *Personality and Individual Differences.* 38, 1321-1330.

Partido, B. B. & Stafford, R. (2018). Association between emotional intelligence and academic performance among dental hygiene students. *Journal of Dental Education*, *82*(9), 974-979.

Petrides, K.V., Frederickson, N. & Furnham, A. (2004). The role of trait emotional intelligence in academic performance and deviant behavior at school. *Personality and Individual Differences*, 36(2), 277–293.

Ransdell, S. (2001). Predicting college success: the importance of ability and non-cognitive variables. *International Journal of Educational Research*, 35,(4), 357-364.

Rivers, S. E., Brackett, M. A., Reyes, M. R., Mayer, J. D., Caruso, D. R. & Salovey, P. (2012). Measuring emotional intelligence in early adolescence with the MSCEIT-YV: Psychometric properties and relationship with academic performance and psychosocial functioning. *Journal of Psychoeducational Assessment*, 30(4), 344-366.

Rode, J.C., Mooney, C.H., Arthaud-Day, M.L., Near, J.P., Baldwin, T.T., Rubin, R.S. & Bommer, W.H. (2007). Emotional intelligence and individual performance:

evidence of direct and moderated effects. *Journal of Organizational Behavior*, 28(4), 399-421.

Ruikar, K., Anumba C. J. & Carillo, P.M. (2006). Verdict- An e- Readiness Assessment Application for Construction Companies. Pp98-110 retrieved from www.elsevier.comilocate/auto.com

Salovey, P. & Mayer, J.D. (1990). Emotional intelligence. *Imagination, Cognition and Personality*, 9, 185-211.

Sandy, L. Frederick, C. & Lunenburg J. (2012). Emotional intelligence and academic success: a conceptual analysis for educational leaders. *International Journal of Educational Leadership Preparation*, *7*(1), 22–29.

Song, L.J., Huang, G.H., Peng, K.Z., Law, K.S., Wong, C.S. & Chen, Z.J. (2010). The differential effects of general mental ability and emotional intelligence on academic performance and social interactions. *Intelligence*, 38, 137-143.

Tabish, SZS. & Jha, KN. (2012). Success traits for a construction project. *Journal of Construction Engineering and Management*, 138(1), 1131–1138.

Tapia, M. & Marsh, G.E. II (2006). The effects of sex and grade-point average on emotional intelligence. *Psicothema*, 18, 108-111.

Thorndike, E.L. (1920). Intelligence and its uses. *Harper's Magazine*, 140, 227-235.

Wong, C. S., Foo, M. D., Wang, C. W. & Wong, P. M. (2007). The feasibility of training and development of EI: An exploratory study in Singapore, Hong Kong and Taiwan. *Intelligence*, 35(2), 141-150.

York, T. T., Gibson, C. & Rankin, S. (2015). Defining and measuring academic success. *Practical Assessment, Research & Evaluation*, 20(1), 5.

Zembylas, M. (2017). Wilful ignorance and the emotional regime of schools. *British Journal of Educational Studies, 64*(4), 499-515.