

RELATIONSHIP BETWEEN EMOTIONAL INTELLIGENCE AND ACADEMIC PERFORMANCE AMONG MEDICAL STUDENTS AT THE UNIVERSITY OF LUSAKA IN ZAMBIA

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Abstract

Intelligence is the capacity to understand the world, think rationally, and use resources effectively when faced with challenges. (Swanepoel & Britz, 2017) or as Sternberg put it, mental activity directed toward purposive adaptation to, and selection and shaping of, real-world environments relevant to one's life. According to Mayer, Caruso, & Salovey's book (Haslam, 2007), using the traditional criteria for considering something as an intelligence, the proponents of emotional intelligence (EI) maintain that EI is a form of intelligence since it meets the criteria. This Study explores the relationship between EI and academic performance. Academic performance, according to Narad and Abdullah (as cited in Abaidoo's thesis, 2018) is: "the knowledge gained which is assessed by marks, by a teacher and/or educational goals set by the students and teachers to be achieved over a specific period of time." The study was done with the objectives to determine the level of emotional intelligence, assess the academic performance of these students and then to establish the relationship between the level of emotional intelligence and academic performance of medical students at the University of Lusaka. This was done using a self-administered online questionnaire and a voluntary response sampling technique. The data was then analysed using SPSS program and by calculating the Pearson Product Moment Correlational Coefficient. A total of 387 students registered in the MBChB Program at the University Of Lusaka, responded to the online self-administered questionnaire. However, only 373 respondents submitted a complete questionnaire. Among the 373 respondents, 280 (75.1%) were female who were the highest number of respondents, and only 93 (24.9%) were male. Most of the respondents (69.7%) were of the aged 21-25. Table 5, shows that the maximum EI score was 64, and the minimum EI score was 37. The highest possible score for EI as 75, while the lowest possible score was 15. 82% of the respondents had an above average score for EI. And Majority of students have an average score between 60-70% in any given test. The study also revealed that there is no significant difference between the academic performance of females and males. The study also reflects that the EI scores of students are strongly and positively associated with the academic performance of students; this finding is similar to the findings of most of the related literature (Yahaya et. al 2011, Fallazaheh 2011, Chew et. al 2013, Roy 2013).

Key words: Emotional intelligence; Academic performance; University; Medical students.

1. Introduction

Across the world, education is considered as an important factor that contributes to success in an individual's life, improvement in the quality of life and general well-being of any society. (Muiga, J, 2020). Tertiary education is essential for the discovery, proper dissemination and application of knowledge. Countries with better educated citizens are said to be more equipped to deal with new challenges and technological advances. In 2020, the state of higher education in Zambia, reported an enrolment of 114,049 student, across the country. The great investments poured into education by governments, parents and other participants, necessitates systems that ensure that learning has taken place. The most commonly used method to determine the extent to which learning has taken place is the use of achievement tests. These achievement tests are then used to grade students on how well they've learned (Muiga, 2020). These tests cannot, however, be used as a measure of intelligence, or a person's capabilities (Cherry, 2022).

Tertiary institutions should dedicate more resources and time to the all-inclusive development of students. Particularly when it comes to helping them develop good social, mental and emotional skills. A recent study done by Sona, Sneha & Joy (2021, p.89) on 'Emotional Intelligence and Academic Stress among Undergraduate Students' concluded that, there is a significant relationship between EI and academic stress. "Academic stress is defined as the body's response to academic-related demands that exceed adaptive capabilities of students" (Wilks, 2008). Low emotional intelligence, increases the student's chance of suffering academic stress and consequently, have poor academic performance.

While IQ can make a very good prediction of the academic performance and to some degree, the professional and personal success of an individual, a high IQ does not guarantee success in life. In fact, some individuals with exceptionally high IQ scores were found to be doing poorly in life (Swanepoel & Britz, 2017). One of the most popular and most cited sources is Daniel Goleman's infamous book *Emotional Intelligence: Why It Can Matter More Than IQ*. In his book Goleman (1995) claims that only 20% of a person's success can be attributed to IQ (Maizatul, et. el 2013). What then is missing? There are many factors that can be explored especially with regards to students and academic performance. Results and findings of various researches conducted in this area of study over several years show a variety of factors like: students' IQ, socio economic status, motivation, peer-relationship, teacher-student relationship, parental involvement and personality (Maizatul, et. el 2013). In more recent years, researchers have pointed to the importance of EI (Plotnik & Kouyoumdjian, 2011). Daniel Goleman (2005) proposed that EI is one of the major missing parts in the success equation. And Low and Nelson (2006), (as sited in Maizatul, et. el 2013) claim that EQ is crucial to a student's personal health and college success.

In terms of language learning (as cited in Chang & Tsai, 2022), emotional characteristics and cognitive ability are beneficial to reading comprehension, introspection, speaking, listening comprehension and writing performance, and thus EI is essential for students to learn. According to Dubey (2012) students EI positively correlates with their learning motivation, which Jenkins and Demaray, (2015) defined as the strength of dominating individuals' behaviour, which drives them to be engaged in goal-directed behaviour. Learning motivation is closely related to Academic performance (Chang et al.). Years of research have gone into EI by a good number of scientists (Daniel Goleman, Robert Sternberg, John Mayer...etc.) and according to Schutte and Malouff (as cited in Swanepoel & Britz, 2017, p.177) people with high EI are liable to be more successful in life than those with lower EI.

Therefore, due to the many claims on the influence of emotional intelligence on academic and occupational

success, this study aims to find out the level of emotional intelligence among the students of the medical field to investigate its influence on their academic achievement. Since the respondents are future doctors it would be insightful to find out how emotionally intelligent they are and to establish whether emotional intelligence does help them to perform academically in their pursuit to attain their Bachelor Degree in Medicine and surgery. The main objective of the study was to explore the relationship between emotional intelligence and academic performance among medical students at the University of Lusaka in Zambia.

The study was guided by the following questions:

- What is the level of emotional intelligence of medical students at the University of Lusaka?
- How well do the medical students at the University of Lusaka perform academically?
- What is the relationship between the level of emotional intelligence and academic performance of medical students at the University of Lusaka?

The study was guided by the following hypotheses:

- H_0 – There is no statistically significant relationship between the level of emotional intelligence and academic performance of medical students at the University of Lusaka.
- H_1 - There is statistically significant relationship between the level of emotional intelligence and academic performance of medical students at the University of Lusaka.

Seeing as the goal of education is not great academic achievement, but rather to enable people to develop their full potential, and become successful members of society (Allison Academy), a study on emotional intelligence and its influence on academic performance is a worthwhile endeavour.

Students who participate in the study will get an opportunity to do some introspection and ask themselves questions they may never have thought of answers to, resulting in greater self-awareness. Both the institute and students of the University of Lusaka may benefit from this study as well. A significant correlation between EI and how well students perform, may prompt the university to do more investigation and make changes to the curriculum to support the development of EI in their students, thus, improving their students' performance and the overall academic performance of the university. With improved academic performance the university will eventually be known as a centre of excellence and will become a preferred tertiary institute.

Given public access to the results of this study, universities across Zambia, could make their own assessment and improve their school curriculums to support the development of EI in students enrolled at their institutions. And with universities across the country producing emotionally intelligent graduates, the work force in the country will have better mental health, job performance, and leadership skills, thus, benefiting the society and improving the economic growth of the country.

This study also has the potential to significantly change the value of EI in education systems all over the world, and may even spark interest in funded research related to improving EI.

Literature Review

In the educational field, academic performance (AP) is the construct that has been studied most. Teaching, learning, and all the cognitive factors related to AP have been widely examined (Pellitteri and Smith, 2007). Recently, one of the most analyzed research lines concerns the influence of personality factors and personal skills on achievement of AP (Poropat, 2009; MacCann et al., 2019). In the last 20 years, a large portion of research has been guided by a recent theoretical focus on emotional abilities, specifically emotional intelligence

(EI), which has been viewed as a key component of the factors that influence well-being as well as adaptive processes in specific contexts (Zeidner et al., 2012). Several reviews showed the relevance of EI as a personal resource associated with health outcomes (Martins et al., 2010), well-being (Sánchez-Álvarez et al., 2016), and even task performance (Miao et al., 2017). Likewise, literature reviews focused on analyzing the role of EI in AP have been published (Perera and DiGiacomo, 2013; MacCann et al., 2019). These studies showed significant effects of EI in predicting AP after controlling the effects of intelligence and personality traits. In addition, EI has emerged as a strong predictor in secondary education.

Recent empirical research in education regarding predictors of AP has focussed on intelligence, IQ, or personal cognitive abilities. This research movement has accumulated an extensive research literature on the measurement of cognitive intelligence (Ritchie and Tucker-Drob, 2018). Moreover, there are other personal skills that differ from traditional cognitive intelligence that could affect academic success (Furnham et al., 2009). Currently, there are several lines of research that analyse individual non-cognitive factors that increase the prediction of AP, which requires broader educational models that integrate personal and contextual factors (Gutman and Schoon, 2013). Other non-cognitive skills include attitude, motivation, personality traits, self-regulation, resilience, and social and emotional skills, which are beyond the academic skills that determine successful performance (Bowles and Gintis, 2007). Likewise, personal factors such as motivation and emotional self-regulation in the classroom are associated with school performance, that is, students who are more motivated and have greater skill to manage emotions to obtain higher academic qualifications (Pintrich and de Groot, 1990). Currently, an increasing number of studies have examined the role of emotional skills such as Emotional Intelligence (EI) in Academic Performance (AP).

Previous work has excluded studies conducted with instruments developed under other theoretical approaches of EI (Perera and DiGiacomo, 2013), or has contemplated the role of EI in AP in a more global way and by levels (MacCann et al., 2019), making it difficult to compare the results between different instruments. The present study examined the association between EI and AP, considering instruments developed from all the theoretical approaches to EI in studies conducted in secondary school students, as an educational level of greater relevance according to previous literature (Perera and DiGiacomo, 2013; MacCann et al., 2019). Our meta-analysis aimed to examine previous review studies, comparing the results by the main streams and EI instruments used in secondary education including native English and Spanish speakers. The current meta-analysis study was carried out to (1) assess the associations of AP and EI, hypothesizing that there will be a significant correlation between EI; (2) show the associations of different instruments used to assess EI based on three main streams and levels of AP; in line with previous studies, it was hypothesized that EI ability instruments would have a greater association with AP

Conceptual Framework

The study was based on ‘*The theory of Emotional Intelligence*’ by Daniel Goleman. He is a psychologist, author and science journalist, who propagated the concept of emotional intelligence (EI), which was first devised in 1990 by Peter Salovey and John Mayer in their article “Emotional Intelligence”, published in the journal ‘Imagination, Cognition, and Personality’ (Channell. M., 2021). Goleman came up with five (5) main components of EI, which are: self-awareness, Self-regulation, Motivation, Empathy and Social skills. Each of these components are discussed below, including some of their competencies.

Self- Awareness: According to John Mayer (as cited in Ott. C.) Self-awareness is being “aware of both our mood and our thoughts about mood.” Ott (pp.4) supplements Mayer’s definition saying that self-awareness is the ability to read and accurately interpret one’s own emotions as well as recognize their impact on others. It is a basic understanding of how one feels and why they feel that way (Craig. H., 2019). People who are self-aware are self-confident and find it easier to manage their emotions and dictate how they are likely to respond to others because of how they feel (Tritsch, 2021). They also recognize their own strengths and weaknesses, are open to new information and experiences, and learn from their interactions with others (Cherry, K., 2022). The competencies that Goleman came up with under self-awareness are: emotional self-awareness, accurate self-assessment and self-confidence. Under emotional awareness, Goldman described a sequence that occurs for every feeling experienced, all throughout a person’s day. The sequence (Ott, pp.5) is as follows:

Firstly, an individual would sense a feeling and then acknowledge the feeling; this is followed by identifying more facts. The individual accepts the feeling and then reflects on why the emotion is showing up in that moment. They would ask themselves: “what other feelings do I feel” or “what feelings had I felt before this feeling? What is its purpose? What it is communicating, demonstrating, or trying to teach me? Finally the person acts – they bring their thoughts and feelings up and take appropriate action, if needed. But, it doesn’t end there, one would need to reflect on the usefulness of the response and the lesson they’d like to take away.

The ability to assess how one’s emotions influences the moods and emotions of others is just as important. A study by Sigal Barsade (as cited in Ott, pp.7) on “The Ripple Effect: Emotional Contagion and Its Influence on Group Behaviour” shows that our emotions can be contagious and shared with others, even if we do not mean to. According to Tritsch (2021) a person without self-awareness cannot objectively assess emotional states because there is no need to know the reason for each emotional state”

Social Skills: Social skills is more than just being kind, nice or friendly. Goleman, describes social skills as “friendliness with a purpose”. A web article on leadership by wind4change defines it as EI skills to properly manage ones and other’s emotions, to connect, interact and work with the others. The Collins dictionary describes it as the skills that are necessary in order to communicate and interact with others. According to Tritsch an individuals’ social skills determine the degree to which relationships and networks are built and maintained. It involves the ability to find common ground with other people under different circumstances and leverage their views about the world to build relationships.

Empathy: Empathy can be defined as the ability to understand another person’s thoughts and feelings in a situation from their point of view, rather than your own (Dou, T., 2020). In Goleman’s words “sensing other’s feelings and perspectives, and taking an active interest in their concerns”. Self-awareness is a prerequisite for empathy (Whitworth, E.). Goleman proposed that empathy is about 3 things: firstly understanding others, developing others and lastly leveraging diversity. People with an ability to understand the emotions of others, pick up emotional cues, listen well, pay attention to non-verbal communication and show sensitivity. Developing others refers to acting on their needs and concerns, and helping them develop to their full potential. People who are skilled in this area typically praise people for their strengths and achievements and provide constructive feedback. Leveraging diversity means being able to create and develop opportunities through different kinds of people, recognizing that we all bring something different to the table (Whitworth, E.). Daniel Goleman and Paul Ekman have identified three types of empathy: cognitive, emotional and compassionate. Cognitive empathy: is about knowing what the other person feels and what they might be thinking (perspective-taking). It allows you to tap into top-down cognitive skills like problem solving, which can be useful in situations when the person you are empathising with needs your help (Whitworth). Emotional empathy is about

how you feel along with the other person, as though their emotions were contagious. This type of empathy can also extend to physical sensations. With compassionate empathy, you not only understand a person's predicament and feel with them, but are spontaneously moved to help, if needed. (Dou, 2020). Tim Minchin said: "Empathy is intuitive, but is also something you can work on, intellectually".

Motivation: Channell (2021) defines motivation as the drive or inspiration an individual feels to perform a task or achieve a goal. Goleman identified a few elements that make up motivation: our personal drive to improve and achieve, commitment to our goals, initiative or readiness to act on opportunities, as well as optimism and resilience (Skills You Need). It considers the benefits of engaging in activities in the long run rather than immediate gains. There are two types of motivation, intrinsic and extrinsic motivation. Intrinsic motivation is defined as the doing of an activity for its inherent satisfaction rather than for some separable consequence. It comes from within and is characterised by deep-seated interest in expanding one's own knowledge and abilities. Extrinsic motivation is when you are encouraged by external factors to achieve your goals. External factors can be anything from a need for money to fear of punishment. Extrinsic motivators can be positive or negative (Oracle Careers Blog, 2021). The learning process of intrinsically motivated students is accompanied by enthusiasm, curiosity, passion and joy of discovery, whereas the learning process of students motivated by external factors, tends to be a mandatory and dull activity that crushes the student's eagerness to learn (Jurgita, J. 2019). According to Ryan & Deci (as cited in Kalat, J.W. p.376) when people receive more extrinsic motivation than necessary to perform a task, their intrinsic motivation declines. The stronger a person's self-motivation, the more they tend to focus on the goals they have set. Motivated individuals have a strong drive to achieve more, and they also display optimism even if they face unexpected challenges (Tritsch, 2021).

Self-Regulation: Tritsch defines motivation as, "the ability to control unexpected or disruptive emotions or impulses by maintaining a positive outlook even when situations do not go as planned". This doesn't mean one should put their emotions aside or hide them, it simply means waiting for the right time and place to express them. Self-regulation is all about expressing your emotions appropriately.

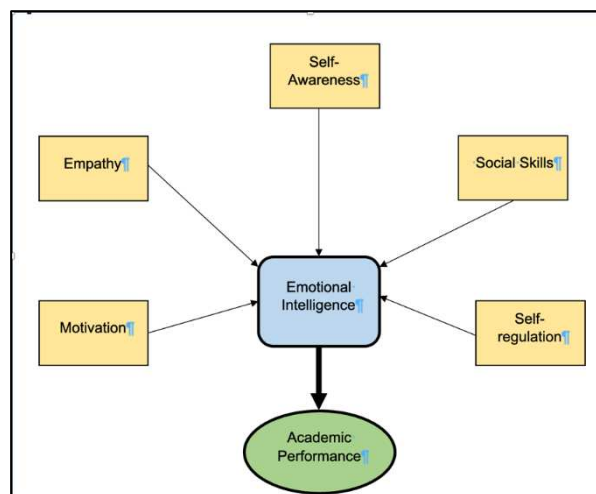


Figure 1: Model for the relationship between predictor and outcome variable

Methodology

This study used a quantitative research approach. Quantitative research can be defined as “the process of collecting and analysing numerical data” (Bhandari, 2022). Quantitative research was also described by Interaction Design Foundation (2016) as: “the methodology which researchers use to test theories about people’s attitudes and behaviours based on numerical and statistical evidence”. It’s logical and objective stance make it the best for this research. This approach was used to find patterns, averages, make predictions, test the relationship between the study variables and generalize results to a wider population.

The study employed a correlational research design. This is a type of research design that investigates relationships between two variables (or more) without the researcher controlling or manipulating any of the variables. (Bhandari, 2021). It can also be defined as a non-experimental research method in which a researcher measures two (or more) variables and understands and assesses the statistical relationship between them with no influence from any extraneous variable. This design was used to investigate the relationship between Emotional Intelligence and Academic Performance, which major the variables of this study with the help of statistical analysis, specifically the Pearson’s Product Moment Correlational Coefficient (r). This design is best as it is a non-experimental type of quantitative research and does not involve controlling or manipulating of any of the variables. This study was conducted at the School of Medicine campus of the University of Lusaka in Zambia. A campus that currently accommodates Business, public health, nursing and medical students. The study population of this study is registered students currently doing the MBChB program at the University of Lusaka, Zambia. There were said to be about 2350 students doing the MBChB program registered at the time this research was conducted. All students enrolled in the MBChB program were eligible for participation in the study. With a population of 2350 students and a margin of error of 5% a minimum of 342 participants were required for this study to be significant, a total of 373 students participated in the study, excluding participants who did not complete the questionnaire.

Results

A total of 387 students registered in the MBChB Program at the University Of Lusaka, responded to the online self-administered questionnaire. However, only 373 respondents submitted a complete questionnaire. Among the 373 respondents, 280 (75.1%) were female who were the highest number of respondents, and only 93 (24.9%) were male. From the 373 respondents 21 (5.6%) were of the ages between 16-20 years, 260 (69.7%) were of the ages between 21-25 years, 81 (21.7%) were of the ages between 26-30 years and 11 (2.9%) were above the age of 30. The highest number of respondents among the age groups were of the ages between 21 and 25.

Table 1: Gender distribution of the study sample

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	F	280	75.1	75.1	75.1
	M	93	24.9	24.9	100.0
	Total	373	100.0	100.0	

Table 1 Academic performance and Gender

Value for AP scores	Gender	
	<i>Female</i>	<i>Male</i>
1	2	1
2	21	11
3	205	66
4	52	15
Mean	3.09	3.02
Total	280	93

Table 2 Emotional Intelligence and Gender

Statistics		
	Female	Male
N	280	93
Mean	53.4107	52.0323
Minimum	37.00	40.00
Maximum	64.00	64.00

Table 3 Age of the respondents

Age (years)					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	16-20	21	5.6	5.6	5.6
	21-25	260	69.7	69.7	75.3
	26-30	81	21.7	21.7	97.1
	Above 30	11	2.9	2.9	100.0
	Total	373	100.0	100.0	

Descriptive Statistics for the Respondent's Emotional Intelligence

Results, as presented in Table 5, show that the maximum EI score was 64, and the minimum EI score was 37. The highest possible score for EI as 75, while the lowest possible score was 15. Results also show a mean of ~53.07, a range of 27, and standard deviation of ~5.59, Skewness of -0.356 and Kurtosis of -0.55. Under the sub scale of EI, five domains of EI were tested, namely Self-regulation, Empathy, Interpersonal Skills, Self-awareness and Self-motivation. Results for these domains are shown in table 6 below, and include minimum and maximum scores, mean, standard deviations, Skewness and Kurtosis.

Table 4 Descriptive statistics of Emotional intelligence

Descriptive Statistics of Emotional Intelligence			
	Emotional Intelligence		Valid N (listwise)
	Statistic	Std. Error	Statistic
N	373		373
Range	27.00		
Minimum	37.00		
Maximum	64.00		
Mean	53.0670		
Std. Deviation	5.59265		
Skewness	-.356	.126	
Kurtosis	-.550	.252	

Table 5 Descriptive Statistics for the Score on the Sub Scales of Emotional Intelligence

Descriptive Statistics on the Sub Scales of Emotional Intelligence					
	Self-regulation	Empathy	Interpersonal skills	Self Awareness	Self-motivation
N	373	373	373	373	373
Range	6.00	12.00	4.00	11.00	14.00
Minimum	4.00	12.00	1.00	3.00	6.00
Maximum	10.00	24.00	5.00	14.00	20.00
Mean	6.9169	18.1153	3.4263	10.3861	14.2225
Std. Deviation	1.24696	2.13398	.77116	1.85815	1.95825
Skewness	.024	-.388	-.724	-.198	-.742
Kurtosis	-.653	-.151	.072	-.272	1.599

Table 6 Respondents' Level of Emotional Intelligence

Level of Emotional Intelligence	Frequency	Percentage (%)
Low	0	0
Below average	0	0
Average	40	10.7
Above average	308	82.6
High	25	6.7
Total	373	100

Descriptive Statistics for Academic Performance

Results on Academic Performance have shown that very few of the respondents achieve a grade lower than 40% on an average test score (Table 8). And Majority of students have an average score between 60-70% in any given test. Only 18% of the respondents achieve test score of above 80% on average. Table 9 Shows results pertaining to the best grade achieved in the last semester exams undertaken by the respondents. As shown in the above mentioned table, the highest score of majority of the respondents was a B, and the least number of respondents achieved a C+ as their highest grade. Under descriptive studies, Table 10 shows the mean and standard deviation of the average test scores and best grades.

Table 7 Average academic achievement of Respondents on Test Scores

On average, what score do you get in your tests?			
Average Test Scores	Frequency	Percent	Cumulative Percent
Below 40%	3	.8	.8
40-59%	32	8.6	9.4
60-70%	271	72.7	82.0
80% & above	67	18.0	100.0
Total	373	100.0	

Table 8 Best grade of respondents in the previous semester

What was your best grade in your last end of semester exams?			
Grade	Frequency	Percent	Cumulative Percent
C	10	2.7	2.7
C+	3	.8	3.5
B	164	44.0	47.5
B+	53	14.2	61.7
A	129	34.6	96.2
A+	14	3.8	100.0
Total	373	100.0	

Table 9 Descriptive Statistics for Academic Performance

Descriptive Statistics for Academic Performance		
Statistics	On average, what score do you get in your tests?	Best grade of respondents in the previous semester
N	373	373
Mean	3.08	3.88
Std. Deviation	.541	1.095

Table 10 Respondents Level of Academic performance

Level of Academic Performance	Frequency	Percentage (%)
Low	0	0
Below average	0	0
Average	40	10.7
Above average	308	82.6
High	25	6.7
Total	373	100

Hypothesis Testing

To test the hypothesis: “There is statistically significant relationship between the level of emotional intelligence and academic performance of medical students at the University of Lusaka”. EI and AP scores were subjected to bivariate correlation analysis using the Pearson’s correlation analysis and the results are presented in Table 12.

Table 11 Correlation between Emotional Intelligence and Academic Performance

Pearson's Correlation Coefficient			
		EI	AP
EI	Pearson Correlation	1	.468**
	Sig. (2-tailed)		<.001
	N	373	373
AP	Pearson Correlation	.468**	1
	Sig. (2-tailed)	<.001	
	N	373	373

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

Discussion

Factors contributing to academic performance among students in learning institutions, ranging from pre-school to as high as tertiary level has been a topic of interest for many groups. Findings of several researches conducted on factors influencing academic performance over a long period of time reveal an assortment of factors, such as: students’ IQ, socio economic status, motivation, peer-relationship, teacher-student relationship, parental involvement and personality. Recent and emerging studies have revealed that IQ alone is not a reliable predictor of students’ academic achievement (Craggs, 2005). This particular study narrowed in on EI as a possible factor with the potential to affect academic performance. The study aimed to discover whether or not there is a relationship between Emotional Intelligence and Academic Performance and also to determine what that relationship is.

Out of a total of 373 respondents to the questionnaire, 280 respondents were female and 93 respondents were male. The number of females who responded to the questionnaire was significantly higher than that of male respondents by over 50% as only 24.9% of the respondents were male. Results indicate that the female respondents had a mean of 53.4 for EI whereas male respondents had a mean of 52.4. Which may suggest that females are more emotionally intelligent than males, even when the difference is slight. However, further analysis could be used to determine the statistical significance of the slight difference in EI scores between the female and male respondents seen in this study. With these results it may be determined whether or not EI was not affected by gender in this study. With regards to academic performance, data shows that there is a mean AP

of 3.09 for females and for males a mean AP of 3.02, which shows yet a slightly higher score by females by only 0.07. As aforementioned, this can be analysed for statistical or whether gender does not affect academic performance at all in this study.

Emotional Intelligence: The study revealed that most of the students have an above average EI score. Although most students had a good EI score only 6.7% of the respondents had a high EI score. The respondent with the highest score, had 64, but the highest achievable score EI score for the questionnaire used in this study was 75. The lowest achievable score was 15 points but the respondent with the lowest score achieved 37 points, which is 22 points more than the minimum score. The mean average EI score for all the respondents was 53.06, this falls within the range of 31 to 45, which is a score of average EI. Given these results, one would expect any given student of the previously outlined population to have average intelligence. In fact, there were no respondents in the study with a Low EI score (less than 15).

With regards to the five (5) individual sub-scales of EI presented in the questionnaire, the highest score among the 5 domains was 24 points in Empathy. This suggests that the respondents are more empathetic. The second highest score was 20 points under self-motivation which is often the most discussed when it comes to factors influencing academic performance. The lowest score was 1 point in interpersonal skills, although this could be attributed to the questionnaire design as there was only one question in the questionnaire assessing interpersonal/ social skills, making the data in comparative unless percentages were used on all domains.

Academic Performance: Results have shown that most of the respondents, about 82%, had an above average AP score, with the mean for all respondents at 3.88 out of a maximum AP score of 4. This suggest that most of the respondents in this study perform well academically; which when transferred to the larger medical student population of UNILUS, would mean that most medical students at the University of Lusaka perform well academically. This is of course based on the findings of this study. Just as majority of the respondents of this study performed well, with above average AP scores, majority of the respondents also had an above average EI score. It is also worth noting that there were no respondents with a score below average AP score or EI score. This observation alone, is not enough to determine a positive relationship between emotional intelligence and academic performance of the respondents in this study, but it does however support that emotional intelligence and academic performance may share a relationship.

In determining the relationship between EI and AP, Pearson correlation analysis was performed. Table 12 shows that EI of respondents and AP were significantly related ($r(373) = .468, p = < .001$) which means that the higher a student's level of EI the better their academic perform. The overall result shows that there is statistically significant relationship between the level of emotional intelligence and academic performance of medical students at the University of Lusaka. Thus, the null hypothesis is rejected and the alternative (H1) is adapted. This finding is similar to the findings of most of the related literature (Yahaya et. al 2011, Fallahzadeh 2011, Chew et. al 2013, Roy 2013).

Conclusions

After analysing the data the results indicate that there is statistically significant relationship between the level of emotional intelligence and academic performance of medical students at the University of Lusaka. The findings imply that the higher the EI, the better the academic performance and that the opposite is true. With

regard to the research questions, the students were found to have an average EI score of 53 out of a maximum score of 64 (82.6%) and majority of the students were found to have achieved above average grades. In addition, there is no significant difference in EI among medical students with respect to their gender. It was also found that there is no significant difference in academic performance with respect to gender.

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