

OVERVIEW OF INTELLIGENCE QUOTIENT OF GRADUATE STUDENTS USING EMOTIONAL QUOTIENT, SOCIAL QUOTIENT AND ADVERSITY QUOTIENT, BY GAME THEORY THROUGH MACHINE LEARNING

Jyoti Ramesh Gaikwad · Suryadatta College of Management Information Research & Technology, Bavdhan,Pune

Dr.Ashwini Brahme, International Institute of Management Science(IIMS),Chinchwad,Pune

Abstract: -

It is proved in scientific research that with increase in age the IQ shows a downfall. Major part of the students in this age group see a downfall in their IQ with increasing age.. It is found that not only IQ is responsible for downfall of IQ but the fact stands that EQ, SQ and AQ are equally responsible. Hence, if efforts are made to correlate all the four together i.e. IQ,AQ,EQ,SQ this will improve IQ and hence, their confidence, motivation, responsibility sense would improve and they will become a good professional and responsible citizen.

To work on this game theory and machine learning we can use.

Keywords:-

IQ, AQ, EQ, SQ,EI, Game Theory, Machine Learning

Abbreviations:-

IQ: Intelligence Quotient, AQ: Adversity Quotient SQ: Social Quotient, EQ: Emotional Quotient, EI: Emotional Intelligence

1. Introduction: -

The intelligence quotient is shortened as IQ. IQ is a measure of a person's logic capability. In short, it's an capability to understand how well someone can use available information and logical logic to answer questions or make prognostications or take opinions.[2]

Intelligence Quotient tests start by considering and checking this by measuring short- and long- term memory. It's also how well-conditioned people can break problems or mystifications and recall information they 've heard, also, how snappily? Each pupil has the capacity and capability to learn irrespective of how intelligent he or she is. Numerous scholars struggle during literacy and face problems in academy because of a weakness in one of the specific types of intelligence. Similar scholars get advantages from special education programs. [2]

These education programs give redundant help and support in the areas where they're floundering and can ameliorate. Preceptors can identify similar scholars who can get benefits and advantages of similar special Programs.[2]

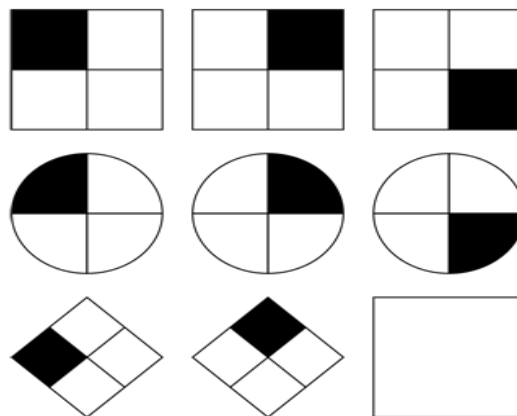


Fig.1.0 reasoning questions like this one ask test-takers to figure out what would come next in the pattern. Life of Riley/Wikimedia

Emotional intelligence is the cap potential to understand, use, and control your private feelings in wonderful your very own feelings in pleasant techniques to alleviate stress, talk effectively, empathize with others, conquer disturbing situations and defuse conflict. [43]



Fig.1.1 Dark Emotional Intelligence Mind Map Template

Social intelligence is the greatest potential for self-realization and fulfilment of others. Social intelligence is developed by playing with people and learning about successes and failures in social situations. It is usually referred to as "tact", "extraordinary sense of place", or "wisdom of the way". [44] The Adversity Quotient is a value that measures a person's maximum potential to deal with adversity in their life. Resilience Generation or Adversity Quotient (AQ) is a testament to a man's or woman's ability to cope with difficult life situations. [46]

People with balanced IQ, EQ, SQ, and AQ are high-quality people who can deal effectively with ups and downs, emotional trauma, and hectic and stressful life situations. Each Q has a huge cost in life at certain stages, including IQ, which can be very important in career development. It is based solely on male or female as no one is the same, IQ, EQ, SQ, AQ ratio can also vary from



family to family, society and environment. [46]

Fig.1.2 Four Types of Intelligence

https://www.google.com/search?q=four+types+of+intelligence&rlz=1C1SQJL_enIN913IN914&source=lnms&tbm=isch&sa=X&ved=2ahUKEwigk4m1kav9AhWdCbCbcAHXBFBjEQ_AUoAXoECAEQAw&biw=1366&bih=625&dpr=1



Fig.1.3 Meaning of four Quotients

<https://www.facebook.com/Aie.Adzrie/posts/iq-eq-sq-aqaccording-to-psychologists-there-are-four-types-of-intelligence-1-int/549514802385877/>

Comparison Chart

BASIS FOR COMPARISON	IQ	EQ
Meaning	Intelligence Quotient or IQ is a number obtained from standardized intelligence test, which represents an individual's ability of logical reasoning.	EQ refers to an individual's level of emotional intelligence, which is represented by scores obtained in a standardized test.
Measures	General Intelligence	Emotional Intelligence
Acquisition	It is an inborn ability.	It is learned and improved ability.
Ability	Learn, understand and implement knowledge, logical reasoning and abstract thinking.	Recognize, control and express one's own emotion's, perceive and assess other's emotion's.
Ensures	Success in school.	Success in life.
Recognizes	People with high intellect, common sense, mental challenges, etc.	Leaders, Captains, Managers and people with social challenges.

[15]The game concept is a theoretical framework for imagining social situations between competing players.

In a sense, the concept of challenge is an era of strategy, or at least the ultimate decision-making process by impartial and competitive actors in a strategic context. [4]

When there is direct conflict between multiple parties seeking the same outcome, this type of game is often a zero-sum game. This means that for every winner there is a loser. Alternatively, this means that the total net benefit received equals the collective net benefit foregone. Almost every sporting event is a zero-sum game where one team wins and the other loses.[4]

ML is a subdomain of (AI). The reason for studying tools is usually to understand the form of statistics and turn those statistics into models that people can understand and use..[3]

Machine learning as an opportunity permit for computer systems to educate on facts inputs and use statistical evaluation on the way to output values that fall indoors a particular range. Because of this, device reading allows computer systems in constructing fashions from pattern facts on the way to automate decision-making strategies primarily based totally without a doubt totally on facts inputs.[3]

2.Objectives:-

- 1.Overview of Intelligent Quotient, Emotional Quotient, Social Quotient, Adversity Quotient.
2. Overview of Intelligent Quotient, Emotional Quotient, Social Quotient, Adversity Quotient through Game theory and machine learning.

3.Literature review:-

1. This study is limited to business schools in Saudi Arabia. The sample size is relatively small compared to the number of students currently enrolled in universities. Data was collected directly from current students based on their self-assessments. As such, it lacks input from other members such as faculty, student academic affairs, alumni, and leaders that may be needed to represent broader student perspectives. The study attempted to identify the intelligence of the current students and how it affects their blood pressure. other factors affecting their overall performance have not been studied. Likewise, previous academic GPAs were not considered to see if GPAs support test scores. Therefore, the results cannot be generalized to understand the dynamic behaviour of prospective students in economics and other majors. Likewise, results may not apply to Masters students whose admissions process to this program has a different criterion that requires students to have high language proficiency such as IELTS, TOEFL, as well as the General Management Skills Test. [22]
2. In line with the findings of the study, the conclusion reached, and their various implications, the following recommendation are hereby made: [23]
 - i. Development of school programs that will strengthen and enrich the Intelligence of student such as seminar-workshop, psychological Education or therapy. [23]
 - ii. Development of Filipino Version tools in assessing or measuring Emotional Quotient. [23]
 - iii. A similar study that will be generated with the use of different tool in measuring Intelligence Quotient.
 - iv. The future researchers are encouraged to conduct further study on the subject matter and a comparison of societal status is also recommended.[23]
3. . It is said that human mind is the most complex machine on earth. Psychologists have always been trying to know why we behave the way we do or the way our mind functions. It is a complex area of research where explanations have always fallen short. Humans differ in their mental capabilities. There are various tests available to analyze various mental abilities of a human mind which have a direct effect on their behaviour. Some such measures are IQ test, EQ test, personality tests, achievement test, aptitude test, etc. One such relatively new measure is AQ, which stands for adversity quotient. AQ is the predictor of success of a person in face of adversity, how he behaves in a tough situation, how he controls the situation, is he able to find the correct origin of the problem, whether he takes his due ownership in that situation, does he try to limit the effects of adversity and how optimistic he is that the adversity will eventually end. The science of AQ was developed by Dr. Paul G. Stoltz in 1997.[24] This is a conceptual paper which explains at length what is AQ, how is it different from IQ and EQ, dimensions of AQ, building blocks of AQ, levels of adversity, how is AQ different from resilience and hardiness, AQ in organizations, research done on AQ, and how to improve your own and others AQ [24]
4. AQ is a person's response to overcoming obstacles or problems. The obstacles one encounters and the ability to overcome them vary from person to person. This study was a literature review on odds ratios in education. This study reviewed several manuscripts that focused on study design, type of participants, and the crucial role of adversity quotient in education. A total of 18 articles were reviewed, with manuscripts reviewed and revised from reputable database journals, namely Scopus, Science Direct and ERIC.This review examined three aspects of the literature on reporting adversity in education, including 1) the type of research design used in the research on reporting adversity in education, 2) the types of participants involved in the research on reporting of adversity, and 3) the role of the relationship between adversity in education. Based on the findings of the manuscript reviews, the

Adversity Quotient studies indicate a major impact on education. Odds ratio studies indicate that 1) the most commonly used regimen is descriptive and experimental research; 2) in ratio studies, study is dominated by students, especially students; 3) The role of adversity quotient is very evident in learning outcomes related to skills.[25]

5. In this study, the author examined the influence of experiential learning and adversity quotient on the problem-solving ability of accounting college students. 120 participants were screened and assigned to control and experimental groups. The test group received four-stage experiential learning. Students participated in a specific experience (do), reflected on that experience and other information (reflected), developed theories based on experience and knowledge (think), and drew conclusions or solved a problem (apply). The control group received specific learning instructions. Data was collected using two tools: the SAQP Student Adversity Quotient Profile Questionnaire; and Polia troubleshooting topics. The data were analyzed using a two-way ANOVA, the results were as follows: the problem-solving skills of the students taught through experiential learning differed from those of the directly taught students, the problem-solving skills of the students differed between high and low adversity, and that it There were interactions between experiential learning and probability coefficients of , improving students' problem-solving skills. The stages of experiential learning form a holistic learning process. [26]

6. Each and Every day people experience different adversities. They are often confronted with certain events that can test their mental stability as individuals. Such adversities can include the sudden loss of a loved one, job loss, financial instability, strained relationships, job insecurity, and other events that can have a tremendous impact not only on a person's current emotional state, but also over time can affect a person's -Term state of mind. However, each of us has an inner, God-given ability to deal with such dire situations and resolve them for the good of life. Despite being under stress, some people are able to endure negative experiences, overcome them and be successful. [29]

In modern times, this important psychological problem can be referred to as "The Adversity Quotient (AQ) or the Science of Human Resilience". People who successfully apply QA in their lives will be best able to deal with the difficulties and challenges - big or small - that they face every day. This research seeks to examine how people cope with such adversity and how they can recover stronger and smarter from certain life events that have led to dramatic changes in their psychological well-being. Furthermore, this study aims to provide teachers, counselors, parents and students with information on how to overcome adversity in life and survive rather than give up in life. [29]

7.i. This study was limited to the Nigeria. It was further limited to randomly selected private and state owned schools in Oyo and Lagos States respectively. It is therefore of paramount importance for this type of study to be replicated in all geo-political zones of the country for a sound comparison of the AQ®; school connectedness, attribution and self-efficacy constructs across the whole country. [30]

ii. The Hierarchical Multiple Regression which is a form of Multilevel Analysis that was restricted to main effects was used in this study. An extension of this for further research is the Moderated or interaction aspect that can be included for further study; which is capable of providing a more robust result and interpretation; especially, when the criterion variable is a single entity for the study. [30]

iii. The results of this study showed that the AQ® though statistically significant in predicting students' academic performance in both Mathematics and English Language in 2013 May/June WASSCE in selected schools in Southwestern Nigeria, yielded only a small level of prediction. One reason for this; which is a likely limitation for this study and which can be improved upon for further research study is in the area of the student's imagination of the occurrence of the events to be rated as depicted on the Student's Adversity Quotient Profile (SAQP). This is a difficult concept for a majority of the students in public schools, despite the initial detailed explanation given by the researcher on how to go about filling the questionnaires. Organization of sound counselling sessions to address this apathy in filling of questionnaire both by the student and the teacher populace will go a long way in getting better data for research studies. [30]

iv. The results of this study can lead to testable experimental hypotheses; which is a foundational base for undertaking and supporting subsequent true experimental research capable of improving on all the variables in this study; especially the AQ® construct. It has been shown that a majority of the student respondents are of average AQ® with corresponding average result. Since AQ® can be learned and improved upon; an experimental study needs to be conducted that will provide an intervention capable of enhancing the AQ® construct in students[30]

8. AI is a human intelligence-type system that can automatically provide knowledge and information to create intelligent applications that facilitate problem-solving, such as. Troubleshooting, Speech Recognition and Learning. This study was designed to discover and understand the intelligence ratio between teachers and students when using AI in universities. The method used is a phenomenological variant of the qualitative method. This study was conducted at Nurul Jadid University (UNUJA) and the research subjects were PAI faculty and fifth-semester students. Observation, data collection (interviews), data review and drawing conclusions. Referring to the results of this study, AI in universities in its application has a positive and negative impact on the relationship between intelligence and learning when implemented outside of formal education. The IQ relationship between teachers and students, which includes the IQ (IQ), the emotional quotient (EQ) and the spiritual quotient (SQ), is also a good thing that coexists and is direct. [31]

9. While artificial intelligence (AI) is currently one of the most exciting areas of scientific research, the potential threats posed by emerging artificial intelligence systems remain an ongoing source of controversy. To counter AI threats, this study proposes a "standard intelligence model" that combines AI and human traits in relation to four aspects of knowledge, namely input, output, mastery, and creation. Using this model we see three challenges, namely extending the von-Neumann architecture; Test and assess the intelligence quotient (IQ) of natural and artificial intelligent systems including humans, Google, Microsoft Bing, Baidu and Siri; and finally, categorizing artificial intelligence systems into seven classes, from robots to Google Brain. From this we conclude that Google's AlphaGo is in third grade.[32]

10. Research has proven that having high level of emotional intelligence can reduce the chance of getting mental illness. EI, and its component, can be improved with training, but currently the process is less flexible and very time-consuming. Machine learning (ML), on the other hand, can analyse huge amount of data to discover useful trends and patterns in shortest time possible. In this paper, we studied 92 journal articles to discover the trend of the ML utilisation in the study of EI and its components. [33]

This survey aims to pave way for future studies that could lead to implementation of ML in EI training, and to rope in researchers in psychology and computer science to find possibilities of having a generic ML algorithm for every EI's components. Our findings show an increasing trend to apply ML on EI components, and Support Vector Machine and Neural Network are the two most popular ML algorithms used in those researches. We also found that social skill and empathy are the least exposed EI components to ML. Finally, we provide recommendations for future research direction of ML in EI domain, and EI in ML.[33]

11. The task of quantifying a person's intelligence has been the goal of psychologists for over a century. The field of IQ estimation using stylometry is a growing area of research and the effectiveness of using machine learning in stylometry analysis to estimate IQ has been demonstrated in the literature, the results of which suggest that using a large data set can improve the quality of the quotes. The unavailability of large datasets in this research area has resulted in up to papers estimating IQ from written text. In this research article, we review research papers on intelligence quotient estimation and author profiling using stylometry and conclude that based on the success of IQ estimation and author profiling using stylometry, a study on writing IQ estimates using of stylometry will give good results if the right data set is used.[34]

12. In this research article is to find out how students' academic performance and cognitive quotient are calculated for placement. This study will attempt to predict students' IQ or academic grades to

holistically measure a student's IQ using all kinds of metrics, from students' academic records to information from their teachers and even their family background, creating a data set with more than 9000 instances. Data. We implemented and trained multiple machine learning algorithms on data and collected the results to select the best algorithm. The ability of the students to think quantitatively was chosen as a parameter that could be assessed on the basis of the performance in the aptitude tests. Included are a student's transcripts obtained during his undergraduate studies which would also give us an idea of the student's critical and logical thinking ability. All parameters were rated on a scale from 1 to 10. The motivation behind this study was to find out what parameters drive a student to be placed in a company and then calculate the final overall "student score" to determine the student's IQ. The final IQ score generated by the student was rated on a scale of 0 to 3 and the reasonable salary range for the student was estimated, giving the company a good idea of the student's abilities. [35]

13. The article analyzes the role of IQ and the emotional quotient in student development from a psychological and sociological perspective. To meet the challenges of global economic integration, artificial intelligence and big data wave, college students need to improve their learning ability through cultivating IQ, enhance their interpersonal relationship processing ability through cultivating emotional intelligence, and thus their professional improve quality and professional competitiveness. [37]

14. Considering the relevance of emotional intelligence in equipping students with self-awareness, self management, social-awareness, empathy, and self-motivational knowledge, to enable them to navigate emotional challenges (cognitive and non-cognitive) which postgraduate students are faced with in their pursuit for educational success, it is important that educational agencies or ministries should consider to give emotional intelligence a place in our curriculum since both cognitive and non-cognitive aspects of the students are appropriately taken into account during summative assessment. [38]

15. EQ seems to be a crucial factor in a person's success in their job. Therefore, this study was designed to unravel the relationship between emotional intelligence, IQ, and autonomic tests of stress responsiveness in medical students. [39]

16. Future work includes giving solutions for improving the EQ level to the respective user considering more behavioural inputs. The future scope of this research is taking inspiration from our new education policy which focuses on the 360-degree development of a student, and to achieve this, it is very important to measure their EQ level, therefore this platform helps to analyses the EQ level and develop it accordingly. Additionally, social quotient, which is analogous to IQ, will be calculated using emotional quotient and self-awareness. The social quotient is the measure of social intelligence which includes knowing when to talk or listen, what to say, and what to do. [40]

17. Certain Colleges students' performance will be improved during their studies can be planned is very important for telling the studies performance of students. Here using the performance evaluation is measured on the basis of higher secondary level and, analysis of Emotional Quotient and Intelligent Quotient. An evaluation is doing according to the evaluation that is received from the analysis based on the mentioned above. The emotional quotient and intelligent quotient is not always same, it be far different in various people being. But these two content will be helping in the development of their academic knowledge and lifelong learning. In this research paper presenting the performance of students by their higher secondary value, IQ and EQ values. It is find out only through some novel algorithms. It is defined on the basis of training, learning, analysis and prediction stage. Firstly students or faculty have to enter their marks in the interface provided and students have to attend an intelligent quotient and emotional quotient questions that is set with the instruction of some psychologist. At the prediction stage will produce whether the students will pass or fail. The testing phase it helps to determine is our prediction is correct or not.[41]

18. In this study the problem of development of intelligent machine learning applications to exploit the problems of adaptation that arise in multi-agent systems, for expected-long-term profit maximization. Author present two results. In First result , author propose a learning algorithm for the Iterated Prisoners Dilemma (IPD) problem. Using numerical analysis we show that it performs strictly

better than the tit-for-tat algorithm and many other adaptive and non-adaptive strategies. Second, Author discuss study the same problem from the aspect of zero-sum games. Author discuss how AI and Machine Learning techniques work closely to give our agent a 'mind-reading' capability. [1]

19. The goal of ML is to program computers to use example data or experience to solve a given problem. Many successful applications of ML exist already, including systems that analyze past sales data to predict customer behavior, optimize robot behavior so that a task can be completed using minimum resources, and extract knowledge from bioinformatics data. Introduction to ML is a comprehensive textbook on the subject, covering a broad array of topics not usually included in introductory ML texts. To present a unified treatment of ML problems and solutions, it discusses many methods from different fields such as statistics, pattern recognition, neural networks, artificial intelligence, signal processing, control, and data mining.[8]

Findings and Discussion:- This is the measure of your capability to make a network of musketeers and maintain it over a long period of time. People that have advanced EQ and SQ tend to go further in life than those with high Command but low EQ and SQ. utmost seminaries subsidize in perfecting IQ position while EQ and SQ are played down.

Intelligence Quotient vs Emotional quotient, Social Quotient and Adversity Quotient Every child is different, with different literacy needs and personalities. To say that one type of intelligence is more important than another is to say that learning arithmetic is more important than languages. While every subject is important in education, the most important thing is that your child builds an educational foundation that will serve them throughout their adult life. The same meaning can be applied when comparing different types of intelligence.[42]

It's simply not logical to suppose that one type of intelligence is more important than another. Developing a child's social chops, tone- mindfulness, tone- control and managing mechanisms aren't only important for learning but also vital to succeed as grown-ups in a plant terrain.[42]

Social and emotional literacy in seminaries

Understanding Child's unique personality and strength areas can offer precious perceptivity into how you approach and personalise their education to develop these crucial life. Whilst utmost seminaries concentrate on perfecting IQ situations, EQ, SQ and AQ development is frequently neglected.[42]

It's inversely as important to attend to the emotional well- being of a learner, as to their academic requirements. Social and emotional literacy should be integrated into a child's education as it's integral to their development. Enrolling your child in a social and emotional literacy course will help them develop these crucial life chops and will in turn contribute to them getting more successful and happier in their adult life.[42]

Conclusion:

Persons with balanced Command, EQ, SQ, and AQ are the stylish individualities who can manage the ups & campo, emotional traumas and temporary challenges in life effectively and successfully. Each Q has significant value in life at different stages, similar as IQ is veritably important in career development. It depends on the nature of an individual as everyone is different from others, the rate of IQ, EQ, SQ, AQ would differ in each person depending on the family, society and surroundings. People that have advanced EQ and SQ tend to go further in life than those with high Command. A man of high Command can end up being employed by a man of high EQ and SQ indeed though he she has an average IQ.[11]

Future Scope:-

To assess intelligent quotient of graduate students by using machine learning by using unsupervised learning as well as by using statistical tools and techniques such as regression analysis.

References:-

1. When Machine Learning Meets AI and Game Theory, Anurag Agrawal, Deepak Jaiswal
2. Science News Explore By Alison Pearce Stevens
<https://www.sciencenewsforstudents.org/article/what-iq-and-how-much-does-it-matter>
3. An Introduction to Machine Learning, Digital Ocean-Lisa Tagliaferri
[https://www.digitalocean.com/community/tutorials/an-introduction-to-machine-learning#:~:text=Machine%20learning%20is%20a%20subfield%20of%20artificial%20intelligence%20\(AI\).&text=Because%20of%20this%20C%20machine%20learning,has%20been%20fitted%20from%20machine%20learning.](https://www.digitalocean.com/community/tutorials/an-introduction-to-machine-learning#:~:text=Machine%20learning%20is%20a%20subfield%20of%20artificial%20intelligence%20(AI).&text=Because%20of%20this%20C%20machine%20learning,has%20been%20fitted%20from%20machine%20learning.)
4. Investopedia, Game theory-Adam Hayes <https://www.investopedia.com/terms/g/gametheory.asp>
5. Game Theory and Multi-agent Reinforcement Learning, Ann Nowé, Peter Vrancx, and Yann-Thomas De Hauwere
https://www.researchgate.net/publication/269100101_Game_Theory_and_Multi-agent_Reinforcement_Learning
6. https://www.iilsindia.com/study-material/355131_1624199944.docx
7. Science Direct, Thoracic Radiology : Noninvasive Diagnostic Imaging-V. Courtney Broadus MD, in Murray & Nadel's Textbook of Respiratory Medicine,
<https://www.sciencedirect.com/topics/psychology/machine-learning>
8. International Research Journal of Engineering and Technology (IRJET), Machine Learning-Ragini Avhad <https://www.irjet.net/archives/V6/i2/IRJET-V6I228.pdf>
9. Tech Accelerator In-depth guide to machine learning in the enterprise,machine learning-Ed Burns
<https://searchenterpriseai.techtarget.com/definition/machine-learning-ML>
10. What is Artificial Intelligence in 2023? Types, Trends, and Future of it?- Great Learning Team
<https://www.mygreatlearning.com/blog/what-is-artificial-intelligence/>
11. Teach EQ and AQ to manage stress Multidisciplinary education would prepare students for multi-functional activities- m a shah <https://www.greaterkashmir.com/todays-paper/op-ed/teach-eq-and-aq-to-manage-stress>
12. <https://www.linkedin.com/pulse/iq-eq-aq-why-you-need-all-3-effective-leader-phil-holberton>
13. Social Intelligence and Emotional Intelligence: Correlational Analysis among Secondary School Students in Different Achievement Levels-Dixon P. Thomas , Dr. K. V. Jeeva Rathina
<https://ijip.in/articles/social-intelligence-and-emotional-intelligence-correlational-analysis-among-secondary-school-students-in-different-achievement-levels/>
14. Forget I.Q. and E.Q. Success is About A.Q.- By MARIO ALVARO LIMOS
<https://www.esquiremag.ph/long-reads/what-is-adversity-quotient-a00293-20191209>
15. Difference Between IQ and EQ- Surbhi S .<https://keydifferences.com/difference-between-iq-and-eq.html>
16. IQ and EQ: new study finds that high-IQ people also have more emotional intelligence-BY DOUGLAS HEINGARTNERON <https://www.psychnewsdaily.com/iq-and-eq-gifted-people-also-have-a-bit-more-emotional-intelligence/>
17. What is IQ, EQ, SQ, AQ?-Dev Karlekar .<https://www.linkedin.com/pulse/what-iq-eq-sq-aq-dev-karlekar>
18. A Pilot Study of Correlation between Intelligence Quotient, Social Quotient, and Ayurveda Parameters in Children-Satyam Sharma, Anuradha Balsavar,1 R. P. Beniwal,2 Triptish Bhatia,2 and Smita N. Deshpande2.<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5795683/>
19. [health & living health center-What Is the Normal Range for IQ?](https://www.medicinenet.com/what_is_the_normal_range_for_iq/article.htm)
https://www.medicinenet.com/what_is_the_normal_range_for_iq/article.htm
20. The Role of Intelligence Quotient and Emotional Intelligence in Cognitive Control Processes- Purificación Checa1* and Pablo Fernández-Berrocal2
21. Correlation between Adversity Quotient (AQ) with IQ, EQ and SQ Among Polytechnic Students Using Rasch Model-Mohd Effendi @ Ewan Mohd Matore1* and Ahmad Zamri Khairani2
<https://sciresol.s3.us-east-2.amazonaws.com/IJST/Articles/2016/Issue-47/Article78.pdf>

22. A comparative analysis of emotional intelligence and intelligence quotient among Saudi business students' toward academic performance-Sania Khan-International Journal of Business Management.
23. INTELLIGENCE QUOTIENT, EMOTIONAL QUOTIENT, SPIRITUAL QUOTIENT, AND ADVERSITY QUOTIENT® AND THE ACADEMIC PERFORMANCE OF STUDENTS-A Thesis Presented to the Faculty of the Psychology Department St. Alexius College City of Koronadal
24. ADVERSITY QUOTIENT: A New Paradigm in Management to Explore-Er. Shivinder Phoolka, Assistant Professor, Punjabi University Regional Center for IT and Managemnet, Mohali. Dr. Navjot Kaur, Professor, School Of Management Studies, Punjabi University, Patiala
25. The Role of Adversity Quotient in the Field of Education: A Review of the Literature on Educational Development-Juwita, Hesti Ratna; Roemintoyo; Usodo, Budi International Journal of Educational Methodology, v6 n3 p507-515 2020
26. The Effect of Experiential Learning and Adversity Quotient on Problem Solving Ability- Hulaikah, Mifta; Degeng, I. Nyoman Sudana; Sulton; Murwani, F. Danardana International Journal of Instruction, v13 n1 p869-884 Jan 2020
27. EXISTENTIAL INTELLIGENCE INFLUENCES ADVERSITY QUOTIENT AMONG YOUTH IN BECOMING LIFE SMART LEARNER- Theepa Paramasivam, Ramlee Mustapha, Chew Chiou Sheng, Wong Che Hoong, Shri Dayalam James @ Batumalay, Navaratnam Vejayaratnam, Kumaresh Paramasivam
28. <http://www.jiecr.org/index.php/jiecr/article/view/88>
29. ADVERSITY QUOTIENT: SURVIVING RATHER THAN GIVING UP- Dr. Nidhi Chadha, Assistant Professor, Department of Psychology, Goswami Ganesh Dutta Sanatan Dharma College, Sector -32, Chandigarh
30. STUDENTS' ADVERSITY QUOTIENT AND RELATED FACTORS AS PREDICTORS OF ACADEMIC ACHIEVEMENT IN THE WEST AFRICAN SENIOR SCHOOL CERTIFICATE EXAMINATION IN SOUTHWESTERN NIGERIA- BAKARE, BABAJIDE MIKE (JNR) MATRIC NO: 75197- A THESIS SUBMITTED TO THE INTERNATIONAL CENTRE FOR EDUCATIONAL EVALUATION (ICEE), INSTITUTE OF EDUCATION,
31. Artificial Intelligence in Higher Education: Perspicacity Relation between Educators and Students Muhammad Mushfi El Iq Bali(1), Maharani Putri Kumalasan(2), Devi Yunilasari(3)
32. Intelligence Quotient and Intelligence Grade of Artificial Intelligence- Feng Liu, Yong Shi & Ying Liu
33. Machine learning in emotional intelligence studies: a survey- Khairi Shazwan Dollmat, &Nor Aniza Abdullah
34. Estimating Intelligence Quotient Using Stylometry and Machine Learning Techniques: A Review- Glory O. Adebayo and Roman V. Yampolskiy- BIG DATA MINING AND ANALYTICS ISSN 2096-0654 01/06 pp163 –191 Volume 5, Number 3, September 2022 DOI: 10.26599/BDMA.2022.9020002
35. On the Design of Student Assessment Model Based on Intelligence Quotient Using Machine Learning- NIKHILA KATHIRISETTY 1 , RAJENDRASINH JADEJA 2 , DEEPAK GARG3 , AND HIREN KUMAR THAKKAR 4 , (Member, IEEE)
36. A comparative analysis of emotional intelligence and intelligence quotient among Saudi business students' toward academic performance- Sania Khan
37. Analysis on the Role of Intelligence Quotient and Emotional Quotient in the Growth of College Students-Shuxian He, Hanjie Wang, Shuxian He-Available Online 4 August 2021.
38. Emotional Intelligence: A Determinant Factor For Successful Postgraduate Programme Dr. Ndubuisi REUBEN1 & Professor William James UBULOM2
39. Relationship of Emotional Intelligence, Intelligence Quotient, and Autonomic Reactivity Tests in Undergraduate Medical Students- Vagisha Sharma, Manpreet Kaur, Supriya Gupta & Raj Kapoor

40. EQ Based Student Performance Analysis: A Linear Regression Estimation Model- 4th International Conference on Communication & Information Processing (ICCIP) 2022-Rubi Mandal-SVKM's IOT,Dhule 424001,India,Kavita Jagtap-SVKM's IOT,Dhule 424001,India,Dhiraj Patil-SVKM's IOT,Dhule 424001,India
41. Envisaging the Academic Performance of Students- Ierin Babu; R V Siva Balan; Paul P Mathai - 2019 International Conference on Computing, Communication, and Intelligent Systems (ICCCIS)
42. Understanding the different types of intelligence:IQ,EQ,SQ and AQ-Frames of Mind-Howard Garner- September 7, 2022, CambriLearn
43. Why Emotional Intelligenceis Important in Leasdership-03 APR 2019-Lauren LandryStaff Career Development Leadership Leadership Principles
44. https://en.wikipedia.org/wiki/Social_intelligence
45. The effect of the adversity quotient on student performance, student learning autonomy and student achievement in the COVID-19 pandemic era: evidence from Indonesi