Peoples' Democratic Republic of Algeria

Ministry of Higher Education and Scientific Research

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The Effect of Emotional Intelligence Training on Overcoming Test-Taking Anxiety

The Case of First Year Students of English at Batna-2 University

Thesis submitted in partial fulfillment requirement for the degree
of LMD Doctorate in T.E.F.L and Applied Linguistics

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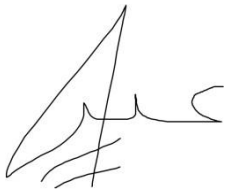
Declaration

I hereby declare that the thesis entitled "The Effect of Emotional Intelligence Training on Overcoming Test-Taking Anxiety" and supervised by Dr. Ben Boulaid Charif is undertaken and written by me. Besides, all the research activities, mainly data collection and analysis methods, respected in this study are outlined and reported by me. This thesis is an original piece of research work solely submitted to Batna-2 University in partial fulfillment of the requirements for the award of the degree of Doctorate in Applied Linguistics. The information derived from the literature has been duly acknowledged in the text and the list of references provided. No part of this thesis was previously presented for another degree or diploma at this or any other institution.

Signature



Atrous Houssam Eddine

01 December 2021

DEDICATION

In the Name of Allah, the Most Merciful, the Most Compassionate

My work is dedicated:

To my parents, who stood by me and taught me all valuable lessons of decency, perseverance, and hard work. Moreover for their unconditional and purest love that kept me feeling fulfilled along the journey.

To my friends, who encouraged me in every step and believed in me sometimes more than I believed in myself.

To the soul of my grandfather, who was the sunshine in my life brightening it whenever he was present.

Acknowledgments

First and foremost, my deepest praise and thanks to "Allah", for blessing me with this opportunity and giving me patience, strength, and inspiration to complete this humble research.

I would also like to thank whoever helped me get here and supported me in any shape or form. My journey was truly blessed with your company.

I would like to extend my gratitude for my supervisor ***Dr Charif Ben Boulaid*** for his encouragement, easygoingness and valuable guidance. Truly, I would not have asked for a better supervisor.

I would like also to extend my deepest appreciation to **Dr. Souhila HELLALET, Dr. Charif BENBOULAID, Dr. Mallek BENLAHCENE, Dr. Fatiha SAHLI, Dr. Noreddine BENTAYEB** for their acceptance to read, examine, and evaluate this research work.

My deep gratitude for the good teachers who taught me and the amazing co-workers I had at the University of Batna 2. They were helpful and family like, and I never felt estranged among them

Abstract

With the growing number of students who suffer from Test Anxiety, a problem that hinders them from performing at their full potential. This study aims at evaluating the effect of Emotional Intelligence Training on reducing the learners' test anxiety. Furthermore, it seeks to investigate to what extent this phenomenon of anxiety is spread among first year students of Batna 2 University at the level of department of English. Using random sampling method we picked 100 first year students of English as a sample. We hypothesized that going through the emotional intelligence training would help in reducing students' test anxiety. Our research method had quasi-experimental design; it involved the procedure of measuring students' Emotional Intelligence and Test Anxiety scores, then having them go through the emotional intelligence training to check if there is significant change in their Anxiety. We also used an opinionnaire after our post-test to gather more qualitative data that will aid our quantitative one. The results of the study confirm our hypothesis that the emotional intelligence training significantly reduces the learners' test anxiety. The results have also shown that students' levels of Test Anxiety are alarmingly high which may hinder their academic performance. The results of the opinionnaire have shown positive feedback regarding the training, however, some found the training difficult to grasp. As implications, we found that emotional intelligence training whether it was explicitly taught or implicitly, is an effective strategy to reduce students' Test Anxiety. Furthermore, we should shed more light on mental health issues in Algeria such as anxiety due to their widespread and the high rates of anxiety shown in the results.

Key Words: Emotional Intelligence, Emotional Intelligence Training, Students Test Anxiety, Emotional Quotient.

LIST OF ABBREVIATIONS

- **CBT**: Cognitive Behavioural Therapy

- **EFL**: English as a Foreign Language

- **EI**: Emotional Intelligence

- **EIT:** Emotional Intelligence Training

- **EQ**: Emotional Quotient

- **EQ-i**: Emotional Quotient Inventory

- **FLA**: Foreign Language Anxiety

- **IQ**: Intelligence Quotient

- **M**: Mean

- **N**: Sample size

- **P**: Probability

- **SD**: Standard Deviation

- **SPSS**: the Statistical Packages for Social Sciences

- **t**: the critical value

- **TA**: Test Anxiety

-**TAQ**: Test Anxiety Questionnaire

-**TTA**: Test-Taking Anxiety

- **Vs**: Versus

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Background of the Study

One of the major purposes of research is to improve education as a whole Siegler (2009), and one of the ways that the research can do so, is by bridging the gap between theory and reality. The theory is how we expect things to go and reality is how they actually go. For example, in theory, if the lesson is delivered, the student understands it and can show that understanding; he would perform well in the exam. However, in reality, that is not always the case seeing that sometimes even bright students fail to perform well. According to several pieces of research that will be discussed in this study, and my humble experience in teaching at the University of Batna 2, one of the factors that limits students performance is their anxiety. Seeing that anxiety can be too broad we decided to tackle Test Anxiety in this study, with the mindset of, reducing test anxiety to manageable levels would hinder the gap between theory and reality and improve education by allowing students to perform at a better potential. One study published in the Journal of Psycho-educational Assessment in 2013 found that emotional intelligence was negatively associated with test anxiety in a sample of college students. Another study published in the Journal of Social Psychology in 2014, found that emotional intelligence was positively related to academic self-efficacy, which in turn was negatively related to test anxiety.

Seeing how little the number of researches done on how Emotional Intelligence Training can reduce students' Test Anxiety in Algeria. We decided that pursuing such study could bring some novelty to the body of research, such as shedding the light on Algerian students' TA levels, discussing ways of including EI training in the curriculum if it is helpful, and whether it is helpful or not. The nature of our investigation demands an experimental design since we are interested in EI training's impact on TA levels.

Statement of the Problem

Students worldwide display a deficit in examination performance and lose self-confidence which furthers the issue to develop self-esteem damages due to uncontrolled anxiety. To embark on uncovering whether this problem exist or not in at the level of the department of English in Batna 2 University, we set out to conduct an exploratory study with the aim of measuring students' test anxiety. Results have shown that the problem indeed exists in the department, and that students' level of anxiety is high according to the anxiety scale that we have conducted and the interview that was done. According to various studies, approximately 20-30% of students report experiencing test anxiety.To delves deeper on why test anxiety is problematic, we checked several models that illustrates how. Wine (1971) shows a model of anxiety that displays how individuals who suffer from test anxiety tend to focus on irrelevant activities rather than the given task. Furthermore, Eysenck (1987, as cited in Dutke and Stober, 2001) hypothesized a relationship between a high level of test anxiety and lowered cognitive performance, saying that restriction of the capacity of working memory causes decrements in cognitive performance of individuals with high test anxiety. In other words, during test situations test-anxious individuals stumble upon task-irrelevant ideas, for example, their concerns and worries about self-evaluative aspects of failure, these ideas occupy some capacity in the working memory. Consequently, as (Hembree, 1988) sums up in the interference model, anxiety disturbs the recall of prior learning and thus degrades performance. (Dutke and Stober, 2001) add that this model applies to complex activities because easy tasks do not require a lot of memory capacity, and memory capacity will usually suffice to fulfill easy task requirements. In addition, anxiety is known to cause not only mental disturbance but also visible physical symptoms such as hand shivering, uncertainty, sleep loss, increased heartbeat, sweating, dizziness, and agitation.

Aims of the study:

The aim of this study is to check emotional intelligence training effect on reducing anxiety. In order to reach this aim, the following sub-aims need to be addressed:

- Determining the learners' test anxiety levels.
- Improving the learners' level of Emotional Intelligence through training and anxiety coping mechanisms.
- Emphasizing the importance of emotional intelligence skills when it comes to the affective filter in EFL classrooms.
- Providing some solutions and strategies to handle test anxiety andovercome it.
- Providing some models for improving students' EI while learning their usual curriculum.

Research Questions and Hypothesis

Research Questions

In an attempt to add valuable data to the already existing literature concerning the topic at hand, this study will put forward the following questions:

- To what extent this phenomenon of test anxiety is spread among students?
- Is the casual training sufficient to solve the issue at hand?
- To what extent does emotional intelligence training help with reducing test anxiety?

Research Hypothesis

Based on the research questions, we draw the following hypothesis:

Having the students undertake the emotional intelligence training would help in reducing their test anxiety.

Methodology

Sample of the study

The population of the study would be picked from 1st years English as foreign language learners in the department of English in Batna 2 University. We picked first-year students seeing that they are more likely to have issues with exams being new to the university and its policies which make them more likely to suffer from anxiety that we seek to eliminate or reduce. Our population was 526 first years students, and our sample is 100 students. The sample was chosen based on simple random sampling method due to the fact that I have been given two classes of 50 students each, which were randomly selected by the administration. One group of 50 students is selected as an experimental group that undergoes the treatment which is the training, while another group of 50 students is set to be a control group for the experiment.

Data Gathering Tools

For the sake of measuring the two variables, we used The Emotional Quotient Inventory (EQ-i) and The Sarason Test Anxiety Scale. There are a lot of EI and TA tests online but we picked tests that were used in several pieces of research that are related to the variables along with their validity and reliability tested for the goal of having some reliable data concerning the students' levels of EI and TA, and whether there is any improvement after the training or not. The students will take them in the

pre-test first, and then we will rearrange the tests and paraphrase them so the students can take them in the post-test as well. We are also using a psychometric interview with the students in the exploratory study to talk about their anxiety levels, and an opinionnaire after the post-test to gather qualitative data to check for EI training efficacy with using more than just the quantitative method. Another instrument that will be used is the Statistical Package for the Social Sciences (SPSS) in order to treat the data and analyse them to measure the significance of our results and discuss them. Last but not least, several instruments will be used during the EI skills training such as a data show and a laptop to display various videos, checklists, stories, and pictures.

Procedure

Following the quasi-experimental design, two pre-tests measuring both groups' TA and EI levels was conducted. A second pre-test for both groups was done to check their whether there are any threats to the validity of the tests. The treatment of emotional intelligence training was delivered to the experimental group of 50 students. After finishing thetreatment, we administrated two post-test to check for the final results, answer our questions and confirm or reject our hypothesis. After that, we gave students a short opinionnaire to gather more qualitative data on the matter and check the consistency of the findings. All data were analyzed through SPSS to show the followings: students' TA and EI levels, EI training significance in reducing TA, and students' opinions on what they have learnt.

Operational Definitions

According to the APA dictionary of psychology (2021), the operational definition is a description of an item in terms of operations (actions, procedures, or processes) in which it can be measured and observed. For example, an operational definition of anxiety could be in terms of observing the physiological symptoms that appear like sweating, or through a test score that tests that form of anxiety. The terms we are defining are:

Emotional Intelligence	The ability to monitor one's own and others' feelings and emotions, to discriminate among them, and use this information to guide one's thinking and actions. (Salovey & Mayer, 1990). EI includes four specific abilities: perceiving, using, understanding, and managing emotions.
Emotional Quotient Inventory	The EQ-i is a self-report measure of emotionally intelligent behavior that provides an estimate of emotional intelligence. A detailed description of the psychometric properties of this measure and how it was developed is found in the Bar-On EQ-i Technical Manual (Bar-On, 1997b)
Emotional Self-awareness	Recognizing one's emotions and their effects
Empathy	Understanding others, and taking an active interest in their concerns.
Four-Branch Model of EI	An ability model developed by Drs. Peter Salovey and John Mayer that includes four main components of EI, arranged in hierarchical order, beginning with basic psychological processes and advancing to integrative psychological processes. The branches are (1) perception of emotion, (2) use of emotion to facilitate thinking, (3) understanding emotion, and (4)

	management of emotion.
Test Anxiety	The test anxiety construct is considered a situation-specific trait accounting for individual differences in the extent to which people find examinations threatening (Spielberger & Vagg, 1995). Sarason test anxiety scale was used to measure students' anxiety.

Structure of the Study

The research comprises of two parts, the theoretical part and the fieldwork. In the theoretical part, we have two chapters and three in the fieldwork.

Chapter one deals with introducing the concepts and defining them, showing their different models and measures and clearing ambiguities concerning the terms through more operational definitions. Chapter two expands more on the variables real life use and education, shows the literary work that was previously done on EI and TA, and criticizes their shortcomings. Chapter three is where the fieldwork starts. We show our exploratory study findings that confirm the existence of the problem and test students' TA levels on small scale. In chapter four we talk about the happenings during the procedure that may have affected the study one way or the other. Then, clarify the experimental design that was done and the validity of the measurements. After that, the overview of the results was displayed through tables, graphs, and analysis. Chapter five deals with discussing the findings as well as mentioning the limitations and recommendations of the research. In the end, there is a general conclusion.

Part One: The Theoretical part

Chapter One: Conceptual Definitions.

Introduction

It is evident how some people have greater capacity than others to perform sophisticated information processing when it comes to emotions and emotion-relevant stimuli and then use this information to guide their behaviour and thinking. Authors such as Daniel Goleman, Salovey and Mayer cornered this ability to the term Emotional Intelligence (EI). However, since the term was introduced, researchers sought different paths trying to define EI, clarify it, and check the science behind it. Knowing what EI is and is not may help the field to distinguish better between what is relevant to EI and what is not. In order to help in making some clarity about EI, we will define the keywords that are associated with it. After all, we cannot hope to understand emotional intelligence without understanding some concepts related to emotion and intelligence. Thus, we will check some different definitions of the two and select the model that helps the most to bring forth an understanding of the concept of Emotional Intelligence. For instance, the multiple intelligence theory serves to illustrate the kind of intelligence we want to conceptualize better than one-dimension cognitive intelligence.

1. The Concept of Emotional Intelligence.

1.1 Historical Background of Emotional Intelligence

"The jury is still out as to whether or not there is a scientifically meaningful concept of emotional intelligence. '' S. Epstein

Emotional Intelligence is a relatively new and under-developing area of behavioural investigation according to Mathews. G et al. (2002) and it spread worldwide more due to several reasons such as the lavish international media attention. There are claims that EI might be a new term for other psychological terms we had before, and that it dates in history far back than its mention in the 1980s. The following table shows some of its development throughout history according to Sparrow and Knight (2006):

Table 1:

The history of Emotional Intelligence.

1920 _ Edward Thorndike first talked of a "Social intelligence"
1940 _ David Wechsler, the father of IQ, discussed the "Non-intellective aspects"
1966 _ Leunen published a paper on emotional intelligence and emancipation
1974 _ Claude Steiner published his first article on Emotional Literacy
1983 _ Howard Gardner's first work on Multiple Intelligences was published
1986 _ Wayne Payne used the phrase "emotional intelligence" in an unpublished Thesis
1990 _ Peter Salovey & Jack Mayer announced their emotional Intelligence theory
1995 _ Daniel Goleman published the first of his emotional intelligence books

Though the term's inception was in the 1980s, it was not until after 1995 that EI received widespread public attention. According to Mathew. G et al. (2002) several researchers like Jack Mayer and Peter Salovey have published some scientific articles about EI in peer-reviewed journals, and Reuven Baron stated that he has used a similar concept to emotional quotient in an unpublished doctoral dissertation of his. Thus, Goleman's books (1995, 1998, 2001) are what brought the topic to the public masses the most. For instance, his book Emotional Intelligence: Why It Can Matter

More Than IQ was published, it got to the top list of the New York Times Non-fiction Bestseller and remained there for 6 months when no other book achieved that before. According to Sparrow and Knight (2006), this wise interest in the topic was because people were ready for its idea, due to several factors that can be summarized in these headings:

- The Educational pieces of research and the ones done on multiple intelligences.

  Table 2:

  Howard Gardner's multiple intelligences (1983)

• Verbal / Linguistic • Logical / Mathematical	Cognitive intelligences, i.e. IQ
• Visual / Spatial • Musical / Rhythmic • Bodily / Kinaesthetic	Specialist intelligences
• Intrapersonal • Interpersonal	Personal intelligences, i.e. EI
• Naturalistic • *Spiritual / Existential*	Later additions to the original 7

- Brain research, brain imaging, and connection between the prefrontal cortex and the amygdala.
- Psychoneuroimmunology and the connections between the brain and the body, and the effect stress has on both of them.

These headings will be clarified in later chapters. After the popularization of the topic, with the magic of this new term, and the excitement about identifying the potential of this new intelligence, the term was used by many, but in different ways markedly (Bar-On 1997, Elias et al. 1997, Goleman 1995, Mayer & Salovey 1993,

Picard 1997). The number of scientific articles and publications on the topic has significantly increased. The following figure shows that popularization according to Khiari (2016):

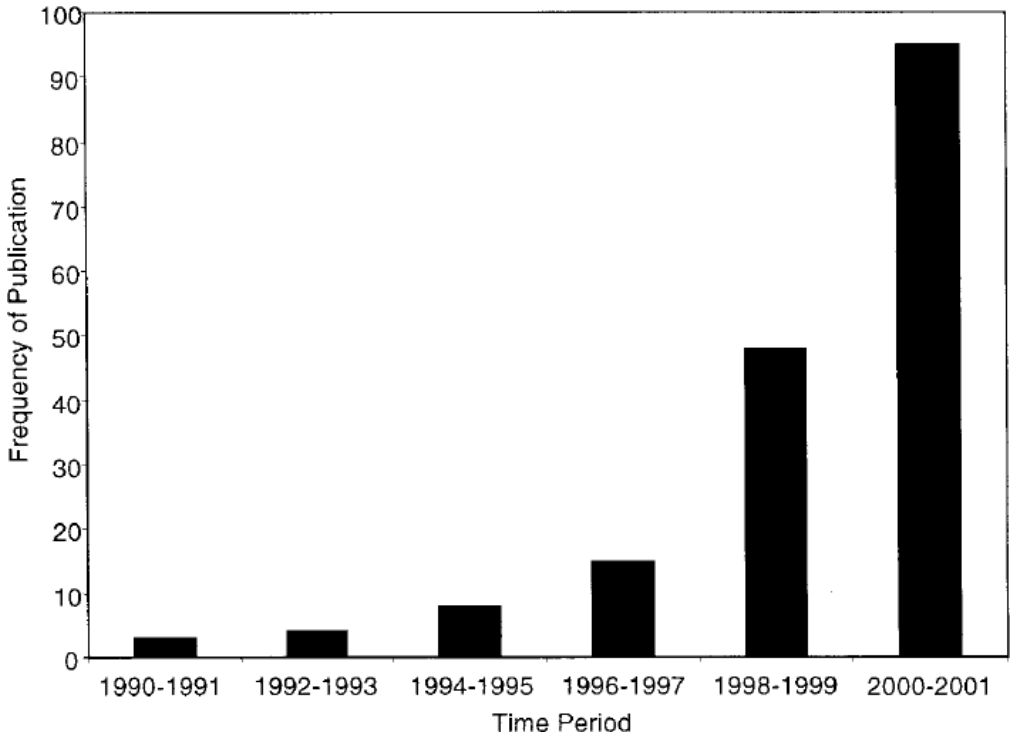

Figure 1: Frequency distribution of EI publications from 1990 to 2001.

1.2 The concept of Intelligence:

The term intelligence though specialists seek to identify it in an objective, scientific manner, it is highly affected by culture and societal use. That is to say, even the definition you may find in the dictionary might do injustice to its technical distinctions that specialists aim to accomplish. There is no denying though that its cultural praise makes it for a valuable attribute to have. Barnhart et al (1974) define intelligence as "the ability to learn and know; understanding; intellect; mind" (p.1088). Since Intelligence has been highly desirable it always raised psychologists' interest as they aimed to learn about its nature and invoked other terminologies to

escape the populist notions of intelligence, such as (aptitude, general ability, and IQ), in addition to similar terms that were the result of psychological experiments aimed at encouraging views that high intelligence is needed prerequisite for success in life (e.g., Herrnstein & Murray, 1994).

The definition of Intelligence, however, has always been a debatable subject with subjective notions that cannot stand to philosophical and/ or empirical scrutiny. We provide some of those definitions in the following table made by Karaduman (2010 as cited in Farooq, 2014, pp, 8-9)

Table 3:

Definitions of Intelligence as Provided by Karaduman

Authors	Definitions
Colvin	Ability to learn or have learned to adjust oneself to the environment.
Dearborn	The capacity to learn or profit by experience.
Descartes	The ability to judge true from false.
Freeman	Sensory capacity, capacity for perceptual recognition, quickness, range or flexibility of association, facility and imagination, span of attention, quickness and alertness in response.
Haggerty	Sensation, perception, association, memory, imagination, discrimination, judgment, and reasoning.
Henmon	The capacity for knowledge and knowledge possessed.
Peterson	A biological mechanism by which the effects of complexity of stimuli are brought together and given a somewhat unified effect in behaviour.

Pitner	Ability to adapt oneself to a new situation in life.
Terman	The ability to carry on abstract thinking.
Thorndike	The power of good responses from the point of view of truth or facts.
Wechsler	The aggregate or global capacity of an individual to act purposefully, think rationally, and deal effectively with the environment.
Woodrow	The capacity to acquire capacity.

Several others attempted to pin-point Intelligence definition but achieved more controversies than consensuses (e.g., Jensen,1987a, 1987b; Sternberg & Berg, 1986; Sternberg & Detterman, 1986; E.Thorndike et al., 1921). One probable reason for such a result can be due to the fact that only a few psychologists tried to understand human intelligence nature, while most psychologists have joined the discourse surrounding it. As Jensen (1980) states that psychometricians are "more interested in finding large correlations and making practical predictions with their IQ tests than in advancing our scientific understanding of intelligence itself".

In light of the issue that definition faces, various commentators argued that the concept of intelligence must be rendered obsolete (e.g., Ceci, 1990; Ceci & Liker, 1986, 1988; Howe, 1988a, 1988b, 1990a, 1990b; see Understanding the Intelligence Component of Emotional Intelligence 87 also Eysenck, 1988; Howard, 1993; Sternberg, 1988, for alternative views). In one of the most vitriolic critiques, Michael

Howe (1990a, 1990b) states that the word intelligence may be used to describe certain classes of behaviour but should not be invoked to explain behaviour. Howe considered the word "intelligence" as a label concerned with various psychological capacities that indicate how well a person deals with specific cognitive issues. In addition, Howe (1990) states:

> The absence of logical grounds for assuming that intelligence must have a conceptual status other than that of a descriptive or labelling construct does not justify our ruling out the possibility that there might still exist a quality of intelligence that can help to account for people's abilities

1.3 System Models of Intelligence

When it comes to models of intelligence, we take two contemporary theorists: Howard Gardner and Robert Sternberg. They have provided intelligence models attempting to be quite encompassing in dealing with the external and internal world of human beings. We refer to their models as system models because their theories project intelligence as a complex system. EI researchers embrace system theories rather than structural theories of intelligence. An example of that would be in Goleman's book (1995) where Gardner's theory is presented as particular influential for the contemporary knowledge regarding human cognitive abilities. Thus, it is Gardner's theory regarding intelligence that we will be discussing, in addition to Sternberg's (1995) triarchic theory since it focuses on practical intelligence and overlaps with a lot of aspects that exist in EI.

a_Gardner's Theory of Multiple Intelligences:

Gardner (1983) argued that existing models of intelligence are too restrictive, as he developed his theory of multiple intelligences. His model was not based on

factor-analytic evidence; it used Gardner's analysis of information derived from several sources such as fields where extraordinary degrees of giftedness/talent occur, or deficits in brain-damaged individuals show. Gardner required a number of distinctive criteria for different kinds of intelligence. His theory attracted a lot of popular press, for it carries the message that there exists more than a single type of intelligence. It also received acceptance from psychometricians and educationalists who were disenchanted with the old view of single-factor intelligence. There are seven types of intelligence according to Gardner, we show them in the following list with a brief description and comment in case they overlap with our previously mentioned terms.

- **Linguistic intelligence:** This ability is used when embarking on reading or writing a poem, paper, or novel. It also has to do with understanding spoken words.
- **Spatial intelligence:** As the name indicates it is related to understanding the space around us. It is used to read maps, get from one place to another with the shortest route, or play a platform video game effectively.
- **Logical-mathematical intelligence:** This intelligence is used to solve math problems and proofs, perform statistical analysis, and such logical issues of the sort.
- **Musical Intelligence:** This ability is used when composing a piece of music, singing a song, or playing an instrument. Not only when it comes to producing, but also when the individual appreciates the structure of a musical piece.

- **Bodily-kinesthetic intelligence:** This intelligence is quite diverse. It can be observed in activities like dancing or playing sports. Though from a psychometric perspective, this intelligence has much in common with special intelligence (Stankov et al., 2001).
- **Interpersonal intelligence:** This intelligence is used when we relate to others when we attempt to understand people and what they feel. Generally, when we try to understand others' motives, emotions, and/or behaviours we use this kind of intelligence which obviously relates to aspects of EI (e.g, Davies et al., 1998; Goleman, 1995).
- **Intrapersonal intelligence:** this type aids us to understand ourselves. Gardner made the assumption that this concept is the basis of understanding who we are, what motivates us, and what makes us tick. This intelligence also helps to know how one can change to become a more fulfilled person with regard to his interests and abilities. Evidently, this intelligence relates to aspects of EI as well.

Gardner (1983, p. 60) had several criteria for making his seven intelligences list, but he admits that one cannot develop a universally accepted and irrefutable list of human intelligences.

A critique of Gardner's theory is that his list classifies intelligences as independent and responsible for certain performances. However, in reality, they interact with one another when a task requires more than one type of intelligence, and there are tasks that require all of the listed intelligences. Another issue with Gardner's list is that although some tasks appear to have specific localization in the brain, some tasks do not have any particular site there. In addition, his list is not covering

everything, for example, if we take olfaction, Danthiir et al (2001) state that there is evidence for the existence of a separate memory system for odours. But we do not find olfactory intelligence in Gardner's list, and therefore he did not take all criteria into consideration.

As we stated before, Gardner's personal intelligences (the intrapersonal and the interpersonal) appear to overlap with EI. They focus on the ability to understand other people and also revolve around accessing one's own feelings, discriminating among those feelings to identify them, and drawing upon the gained knowledge from that to guide one's behaviour. Gardner (1983, p.241) argues that although personal intelligence is of tremendous importance in people's lives, it was ignored or minimized by almost all students of cognition. On the other hand, pieces of research done on social intelligence over the past 100 years have done a considerable effort regarding the subject. Especially that it was of interest to politicians, counsellors, and clergymen who needed an exceptionally good social intelligence to manage relationships with people. However, this type of intelligence is often backed by other types such as linguistic intelligence. For example, an individual who is extremely gifted with their personal intelligence is Mahatma Gandhi, but such an individual possessed good linguistic intelligence that undeniably served in his contribution otherwise it might have gone unnoticed.

b_Sternberg's triarchic theory:

Sternberg (1985) emphasized the departure from traditional concepts of intelligence where it is one-dimensional. He defines intelligence as "purposive adaptation to selection and shaping of real-world environments relevant to one's life'' (p. 45). Sternberg used analogies to show how "Academic" intelligence tested by

available psychometric tests is imperfect when it comes to the ability to function well in daily life. Brody (1992) supports Sternberg's claim by showing how individuals who are deemed to have high academic intelligence did not function well in their settings due to emotional difficulties. Thus, Sternberg (ADD YEAR) goes beyond the traditional IQ to provide concepts that are not that different from EI (e.g., tacit knowledge, practical intelligence). According to Vinney and Cynthia (2019) Stenberg's theories reflect three kinds of intelligences, which are:

- **Practical intelligence:** It is one's ability to effectively interact with everyday life. Practically intelligent people are adept at behaving in an effective way in their environment.
- **Creative intelligence:** It is related to one's ability to use the existing knowledge he possesses to create new methods to solve new problems or handle new situations.
- **Analytical intelligence:** It is the kind of intelligence similar to academic intelligence. It is used to solve problems and standard IQ tests are used to measure it.

Sternberg claims that in order to be successful in life, all three kinds of intelligence are needed. On the other hand, the theory received critiques mainly due to lacking a solid empirical basis, and the data used in his theory is meager.

2. The Concept of Emotions.

"I do not want to be at the mercy of my emotions. I want to use them, to enjoy them, and to dominate them." ― Oscar Wilde, The Picture of Dorian Gray (adding quotes is at beginning)

Darwin and other researchers theorized that emotions serve a biological purpose like alerting us when something is wrong or when our needs are not fulfilled. In other words, when we are in need of something we are not getting or not getting regularly, we may feel negative emotions such as anger, fear, depression, frustration, or other negative emotion. As Matthews et al (2017) quotes "Emotions serve a biological purpose, they tell us when our needs are not being met".

Our ability to deal with emotions will dictate mental, social, and even physical consequences. Matthews et al (2017) state that emotions are how our body speaks to us, and we ignore them at our own risk. They state that ignoring emotions will not just cause unhappiness, but also leads to physical illnesses and early death. Take for example feeling loneliness. Statistics say that loneliness is likely to increase your risk of death by 29% (Holt-Lunstad, 2015) and that lonely people are more likely to suffer from dementia, heart disease, and depression. (Valtorta et al, 2016) (James et al, 2011) (Cacioppo et al, 2006).Therefore, Matthews et al (2017) argues that people with a high level of EI are not only more successful in their careers but also healthier, happier, and have better relationships. They state that a high level of EI would lead to experiencing a healthy balance of feelings such as motivation, focus, friendship, fulfilment, peace of mind, freedom, appreciation, connection, autonomy, self-control, awareness, balance, and desire. However, suffering from low EI makes people feel: Fear, loneliness, guilt, frustration, emptiness, bitterness, depression, frustration, lethargy, instability, resentment, anger, dependence, victimization, obligation, disappointment, and failure.

To make more sense of emotion, researchers theorized that it has a physical basis in the brain. We all had times when we felt out of control of our emotions, they

explain this through a process that happens in the brain. The explanation is that when external stimuli are received through the five senses, it signals to the thalamus and gets translated into the brain's language of chemical signals. Those signals are sent to an area of the brain which is responsible for rational thought. If the correct response involves an emotion, the signal will then be sent to the amygdala which is the emotional centre of the brain. However, sometimes while the signal is sent for processing in the rational area of the brain, a portion of that signal is sent straight to the amygdala, before the brain is able to cognitively process such signal. That is to say, some strong signals from our senses can trigger an immediate emotional response before we fully rationalize how we should properly respond. Matthews et al (2017) state:

> "When a strong enough stimulus is received through the senses, part of the signal is sent directly to the amygdala, the emotional center of the brain, before the rational side of the brain has a chance to determine the appropriate response."

The relationship between the emotional part and the rational one of the brain is developed since infancy, as children develop emotional relationships with their caregivers while their rational part of the brain is developing as well. Matthews et al (2017) show a study about a lawyer who had a brain tumour that required surgery for treatment. The surgery caused severance between the connection of the emotional and the rational areas of the brain. This study has shown how valuable is the interaction between emotional and cognitive intelligence. For the reason that even though his intelligence levels seemed to be the same after that surgery, he was not able to make

decisions. This shows us how the emotional area is the responsible for decision-making.

Using what we know about emotions, we can understand that they are natural, neurological responses to experiencing strong stimuli, and therefore we can allow our rational part of the brain to catch up and analyse the situation. This kind of practice makes one less susceptible to being overwhelmed by emotions, but rather manages and regulates them in order to act in an appropriate rational manner.

2.1 Categories and Dimensions of Emotions.

Looking into the categories and dimensions of emotions is essential in understanding EI, and the challenges they present it with. For instance, someone who is good at handling fear is not necessarily good at handling rage. This idea serves to make us understand that EI is not some unity to handle different emotions at the same rate or way but handles each emotion differently. An example of this idea would be Bill Clinton who is widely perceived to be a good communicator who connects with his voters emotionally, yet has poor control of his lustful passions. We are attempting to conceptualize some of the basic emotions, how people differ in experiencing them and if it is possible to find a unified way of handling qualitatively different types of emotion. However, our focus would be more on how to handle the emotion of anxiety. It is worth mentioning that our focus on the importance of emotion does not negate other factors affecting the situation. For example, a student agonizing due to a difficult incoming exam and failing at it could be due to their anxious emotion, their distracting thoughts, or simply their lack of effort. Perhaps our aim in understanding how emotions function is to eliminate one of the factors for better results.

A lot of theories about the topic attempt to build up lists of basic emotions on rational ground. This approach dates back to Descartes. Several others adopted such an approach to distinguish the emotions that are cross-culturally universal. Lazarus (1991, p.79) have listed love, desire, hatred, sadness, and joy as basic. Another list made by Plutchik (1980) argues that anger, fear, sadness, joy, disgust, acceptance, surprise, and anticipation are primary emotions that can be associated with inferred cognitions, characteristic stimulus events, adaptive effects, and behaviours. As this table shows:

Table 4:

Characteristics of eight primary emotions (Plutchik, 1980)

Feeling state	Stimulus event	Inferred cognition	Behavior	Adaptive effect
Fear, terror	Threat	Danger	Running away	Protection
Anger, rage	Obstacle	Enemy	Biting, hitting	Destruction
Joy, ecstasy	Potential mate	Possess	Courting, mating	Reproduction
Sadness, grief	Loss of valued person	Isolation	Crying for help	Reintegration
Acceptance, trust	Group member	Friend	Grooming, sharing	Affiliation
Disgust, loathing	Gruesome object	Poison	Vomiting, pushing away	Rejection
Anticipation	New territory	What's out there?	Examining, mapping	Exploration
Surprise	Sudden novel object	What is it?	Stopping, alerting	Orientation

Another distinction using the same approach was done by Ekman (1993) using universal facial expressions as a basis for his list that contained: Happiness, anger, surprise, fear, disgust, distress, and contempt. However, he cautions that there might be other basic emotions that have no unique facial expression; especially when it comes to positive emotions like amusement, and pride in making an achievement.

The critics (Mention names) of the basic theory argue that there the criteria for deciding what is basic is invalid because what appears to be basic can differ depending on if we are considering the facial expressions, personal meanings of emotions, or the brain systems. And though some argue on which emotion is basic or not, like Panksepp (2003) who called reflexive emotions "low-level" such as startle and disgust, and "higher sentiments" for human states. Others believe that all emotions are basic, like Ekman (1994) claims:

> There may be some characteristics that are very important for one emotion and of little significance for another. It may never be possible to have an adequate comprehensive theory of emotion. Instead, we may need to have a separate theory for each emotion, to best capture its uniqueness. (p.19)

According to LeDoux (2000), the basic emotions play a large part in helping people in making a rapid judgment depending on the stimuli in order to quickly choose appropriate behaviour. However, not all of our emotions are basic and come from old parts of the brain; people also interpret their experiences differently to make a more complex array of emotional experiences (Ekman, 1992; Elfenbein & Ambady, 2002; Fridland, Ekman, & Oster, 1987). For example, the amygdala can sense fear when the body is falling, but the same fear can be interpreted differently (maybe even as excitement) like when we fall on a roller-coaster ride. If the fall is from the sky due to an airplane that lost power then it would be different fear. These emotional experiences would be "secondary emotions", which are largely cognitive but determined also by arousal and valence (whether they are

pleasant or not) as the following figure illustrates (Stangor, 2013):

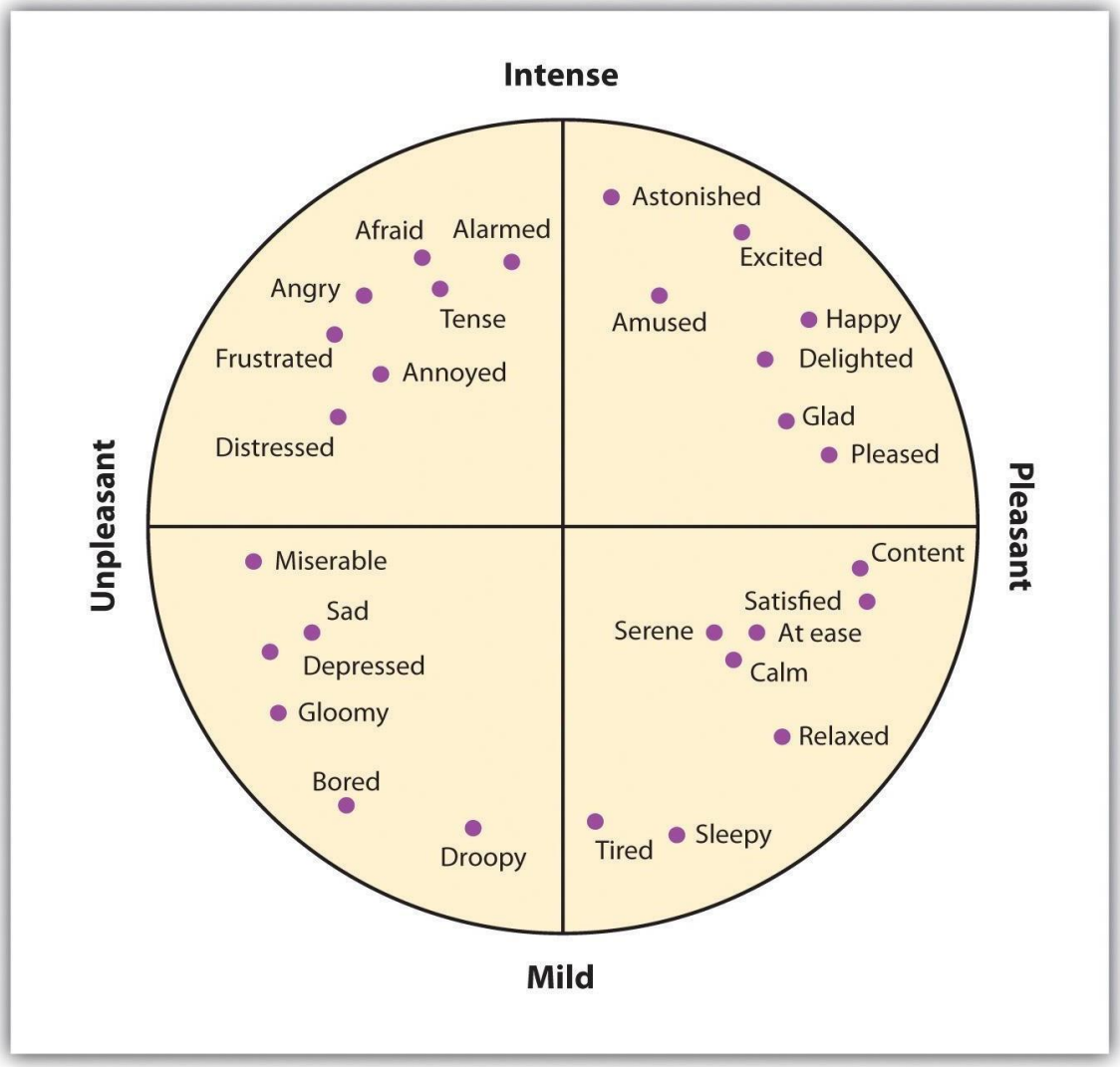

Figure 2: The Secondary Emotions.

The secondary emotions are those that have a major cognitive component. The secondary emotions are determined by both their level of arousal (mildto intense) and their valence (pleasant to unpleasant)

The difference between primary emotions and secondary emotions is that primary ones are experienced for short durations of time and appear quickly. However, a different part of the brain processes secondary emotions that require a higher order of thinking. Thus, these secondary emotions are not reflexive and take a long time to fade away. For instance, since fear is primary you can feel fear of the

dark when you are in a dark place, but it will start to fade as you get out. On the other hand, if you feel guilty for unkind words you said to your mother, that guilt and embarrassment can persist for a long while.

Evans (2001) clarifies this point by saying that since secondary emotions require more time to process; they are influenced by thought and can be managed. That is to say, people can become more competent communicators by being aware of how they express their secondary emotions.

2.2 Functions and Behavioural Consequences of Emotions.

It is farfetched that emotions are mere accidents or stem from curiosity. To address the question of why emotions emerge, most theorists go for the question of ‘’what emotions are actually for?’’. An example of that process of thinking is noticing how fear increases survivability by making the person run away from the source of danger which preserves the person’s safety. So by noticing how emotion influences action and how this action or behaviour serves an adaptive goal, we can see how EI is important to the success or failure of an encounter. In other words, by knowing what emotions can achieve for the individual, we can make a judgment about their usefulness.

The functions of emotions:

From evolutionary psychology according to Darwin’s theories, emotions are a legacy of the natural selection functioning in the Pleistocene era. Hence, we might face some conflicts in adapting to modern culture and technology. For instance, in the old times being with people in a tribe or group increased the chances of survival; loneliness was an emotion that drove people to live in packs

rather than on their own which lowers their chances of danger. Nowadays, on the other hand, we live safely in our homes yet people still feel the emotion of loneliness. Some emotions go through adaptive change for example in some countries; lethal spiders are nonexistent or trivial matter so they form no threat to individuals. This led to having no phobic reaction towards spiders. Considering EI and the evolutionary perspective of emotions, it is still vague whether a highly emotionally intelligent person is a successful evolutionary story and a low EI person is a misfit who has little chance of passing his genes. Or if an emotionally intelligent person is the one who transcends this evolutionary heritage and manages dysfunctional emotional impulses according to the contemporary culture he lives in.

Consequences of emotions:

Emotions have various consequences that can be intended or unintended. Following that thought, Mathews. G et al. (2002) categorizes the consequences of emotions as direct or indirect. The direct consequence can reflect the adaptive purpose like how fear results in a fight or flight reaction, a biological preparedness. Another example related to our research topic is how some stress and anxiety about the exam can lead to pushing the students to prepare for it. On the other hand, the indirect consequence is an outcome that has no relation to the adaptive purpose, like when that anxiety causes a distraction from studying or health problems if it leads to chronic stress.

To check how well the person handles an encounter we need to assess those outcomes to see if they caused success or harm, and that is where EI comes to determine if the success in handling an encounter does not involve some indirect consequences that harm the individual. Conversely, the opposite can happen

sometimes, where handling an encounter in impropriate way could entail some benefits. Murgatroyd (1983) pointed out how the tennis player John McEnroe had a notorious temper on the field yet his emotional immaturity and poor self-control did not hinder his performance. Murgatroyd believed that the player used temper as a self-motivation strategy that helped with his career in playing tennis.

These perspectives were taken into account when it comes to EI theory. As Bar-on (1997) developed various scales for adaptability, like problem-solving and goal-directed action. In the same light, Mayer, Caruso, et al. (1999) included managing emotions as one of their major branches in the ability-based model they made.

One of the aspects that help notice emotional consequences is maladaptation and disorders. According to Mathews. G et al. (2002), negative emotions are a central factor in many pathological issues, mood disorders (depression), and anxiety. People with personality disorders usually struggle with handling emotional situations. Goleman (1995) uses the example of how psychopaths can lack any sign of empathy in emotional situations. Serial killers for example can show no reaction to the murder. Other disorders like Alexithymia (struggling with knowing what emotion is felt) and anhedonia (a lack of any positive emotion) raise questions on whether this dysfunctional is biological or cognitive and on whether the dysfunction is a symptom of the disorder or the cause of it. In all cases, Mathews. G et al. (2002) claim that therapy through raising EI levels would contribute to elevating their condition.

Linking this to our body of research topic, we claim that negative moods generally impair performance. Zeidner (1998) associates test anxiety with bad performance in exams. And although hindrance in performance is not always the case

when negative moods occur (Barrick & Mount, 1991), Matthews (1999) states that negative moods put the person at disadvantage, especially in stressful occupations. Conversely, enthusiastic moods are associated with an enhancement in performance (Mathews & Davies, 1998). To perform well at tasks, usually, attention is needed, as well as effort investment, and having a good mood helps with that, whereas a negative mood can be distracting from the task at hand.

2.3 Conceptualizing emotional intelligence.

Emotional Intelligence is summative competencies, skills, and abilities that encompass a collection of knowledge that aid in coping with life effectively. The models of EI are various and debatable topic among psychology researchers (Mayer & Salovey, 1997). In this study we make use of Mayer and Salovey (1997) model of EI called the Four-Branch model of EI. The model made by them is shown in the next illustration:

Figure 3: Emotional Intelligence 4 branch model

According to this model, the operational definition that we can give to emotional intelligence and the elements that our training sought to improve are the ability to perceive emotion, integrate emotion to facilitate thought, understands emotions, and regulate or manage the emotion to promote personal growth. This definition perceives emotions as important information sources that enable the person to make use of his social environment. This model sees that the person's ability to process emotions vary from one to another and their adaptive behaviors change according to these four abilities as illustrated in the next figure made by (Mayer & Salovey, 1997):

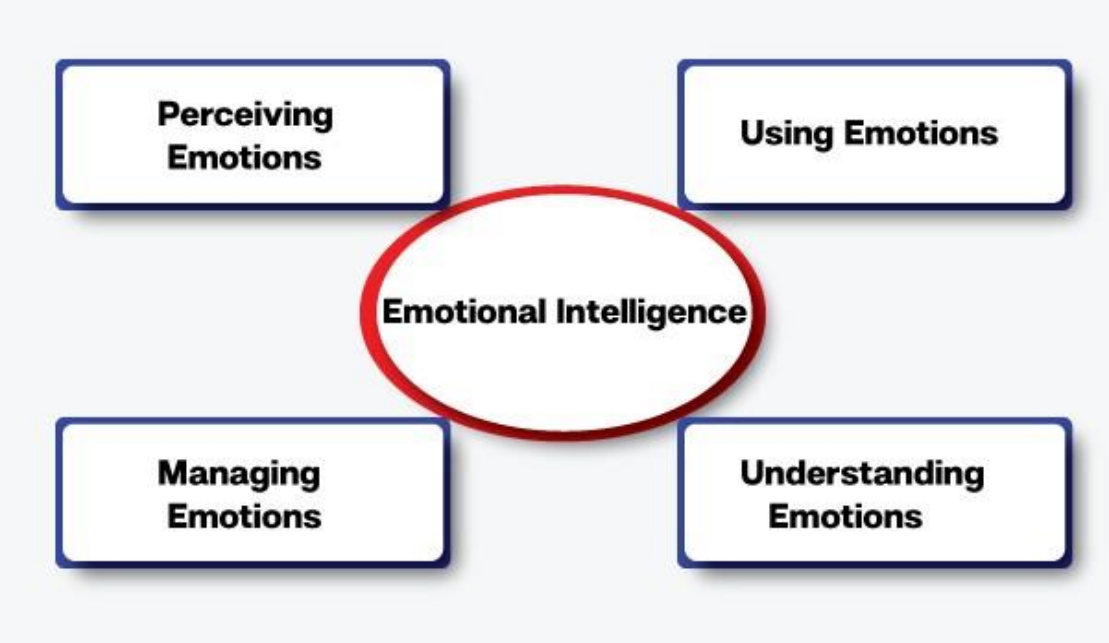

Figure 4: Emotional Intelligence four Branch Model simplified.

3 The concept of Anxiety

3.1 Defining Anxiety

Fear and anxiety were recognized as a clear aspect of human behaviour even in the Old Testament, ancient Egypt, and Roman and Greek literature. Rollo May, an existential psychologist (1950/1977) traced in his work the historical roots of the conceptions of anxiety to view the theological and philosophical views of Pascal in the 17th century and Kierkegaard (CORRECT IT) in the 19th century. The work of Darwin (1872/1965/2018) respectively is considered the biological aspects of our topic. He regarded fear as a universal characteristic in both humans and animals that went through evolution over generations as the adaptive response to danger. According to Darwin, the manifestation of fear results in heart palpitations, increased perspiration, trembling, having a dry mouth, and other behavioural and physiological reactions that are now known to be results of the activation of the autonomic nervous system.

While Darwin focused on the observable behavioural and biological manifestation of fear, Freud (1895/1924, 1936) emphasized on anxiety, where he regarded it as the subjective experience that accompanies fear reactions. Freud defined anxiety as an unpleasant emotional state "something felt". Besides the disturbances in respiration, trembling, and biological manifestations that were described by Darwin, he suggested that anxiety includes a feeling of tension, nervousness, and apprehension. Furthermore, Freud proposed two types of anxiety which are: "Objective anxiety" where the emotional response is proportional to a dangerous situation in the reality in the external world, and "Neurotic anxiety" where the intensity of the emotional response is greater than the danger. When it comes to neurotic anxiety, the individual responds to an internalized danger emanating from the unacceptable aggressive and sexual impulses that had been repressed.

May (1950) defines anxiety as the apprehension triggered by a threat to a value that the person holds crucial to his existence as a personality. This threat could be physical or psychological such as losing freedom or death, as well as a threat to a value that the person identifies with his existence such as success, patriotism, the love for another individual, and so on. For instance, a father can think "If I cannot support my family financially, I would jump off a cliff". According to this father, if he cannot preserve his self-respecting position of being the breadwinner, his whole life crumbles, and lose the meaning that he would want to not exist. Anxiety varies from one to another since different individuals hold different values essential to their existence and consequently to the security of their personality.

On another note, not all anxiety is bad, as May (1978) claims that some of it is healthy and can even be a source of creativity. He gives an example of painting a

picture, where he says that you do not paint a great one by lying on your couch and having a nap but through struggle and putting yourself into it. He elaborates on how the fact that humans talk and think originated from cavemen's anxiety, where humans struggled against animals that are stronger with sharper claws. Which created anxiety and fear that lead this inadequate human to think and force himself to develop capacities that will aid him such as talking. May (1978) says "Without anxiety, we would not be able to have the civilization we now have". Basically, normal anxiety is part of our daily existence that everyone deals with. Everyone could be anxious about an atomic bomb, losing a loved one, pollution, war, and such issues. But it is normal anxiety when it is not repressed and blocked into our unconscious or when it does not lead to heart problems, gastric symptoms, and such physiological issues. Neurotic anxiety or the unhealthy one is when the individual is incapable of coping adequately with a threat perceived subjectively and not objectively. In other words, it is not objective weakness that is causing the anxiety, but rather an inner psychological conflict and pattern of thinking that renders the individual unable to cope (May, 1950). Rollo May adds that these conflicts and anxiety usually occur due to repressed childhood traumas and threatening situations such as parental rejection and abandonment. As well as expectations that are not met, this in hand creates a gap between present reality and expectations and can lead to neurotic anxiety.

To look deeper into the source of anxiety, Karen Horney's works provide some speculations of the roots of anxiety. According to Horney (1950), human beings start their life with the potential for healthy development, but that requires favourable conditions for growth like other living organisms. These favourable conditions can face a multitude of adversity that influences them negatively. Among the first adversities comes the parents' unwillingness or inability to love their child. Due to

parents' neurotic needs, they usually dominate, overprotect, neglect, overindulge, or reject the child. Consequently, if the child's needs for satisfaction and safety are not met, the child starts to develop feelings of basic hostility towards his parents. However, it is rare when the kid expresses this hostility overtly as rage; instead, he represses his hostility toward his parents and he would not be aware of that. This repressed hostility leads to deep feelings of insecurity and vague senses of apprehension.

This condition is what we call "Basic Anxiety" as Horney (1950) described it as "a feeling of being isolated and helpless in a world conceived as potentially hostile". Horney (1937, p. 75) claimed that basic anxiety and basic hostility are "inextricably interwoven". That is to say, hostile impulses are the principal source of basic anxiety, but at the same time, basic anxiety can contribute to hostile feelings. Originally, Horney (1937) cornered four ways that people resort to in order to protect themselves against the feeling of facing a potentially hostile world alone. The first one is affection, which is a strategy that does not guarantee authentic love due to seeking it in the wrong way. For instance, in their search for affection, they can try to buy love with self-effacing compliance, sexual favours, or material goods. The second way they use to protect themselves is submissiveness. Neurotics can submit themselves either to individuals or to institutions like a religion or an organization. Submissiveness according to Horney is often used to gain affection. The third way she mentions is striving for power, possession, or prestige. Power is used here as a defensive mechanism against an imagined or a real hostility of others and it can be viewed in form of tendencies to dominate others; possession is an act of hoarding to struggle against poverty and destitution and it can manifest as a tendency of depriving other people; Prestige is used to protect against being humiliated and can be expressed

through a tendency to humiliate others. The fourth protective device is withdrawal. Neurotics usually shield themselves against basic anxiety by either becoming emotionally detached from others or developing independence from them. Through psychological withdrawal, neurotics think that they cannot be harmed emotionally by others the following figure is made by Horney (1950):

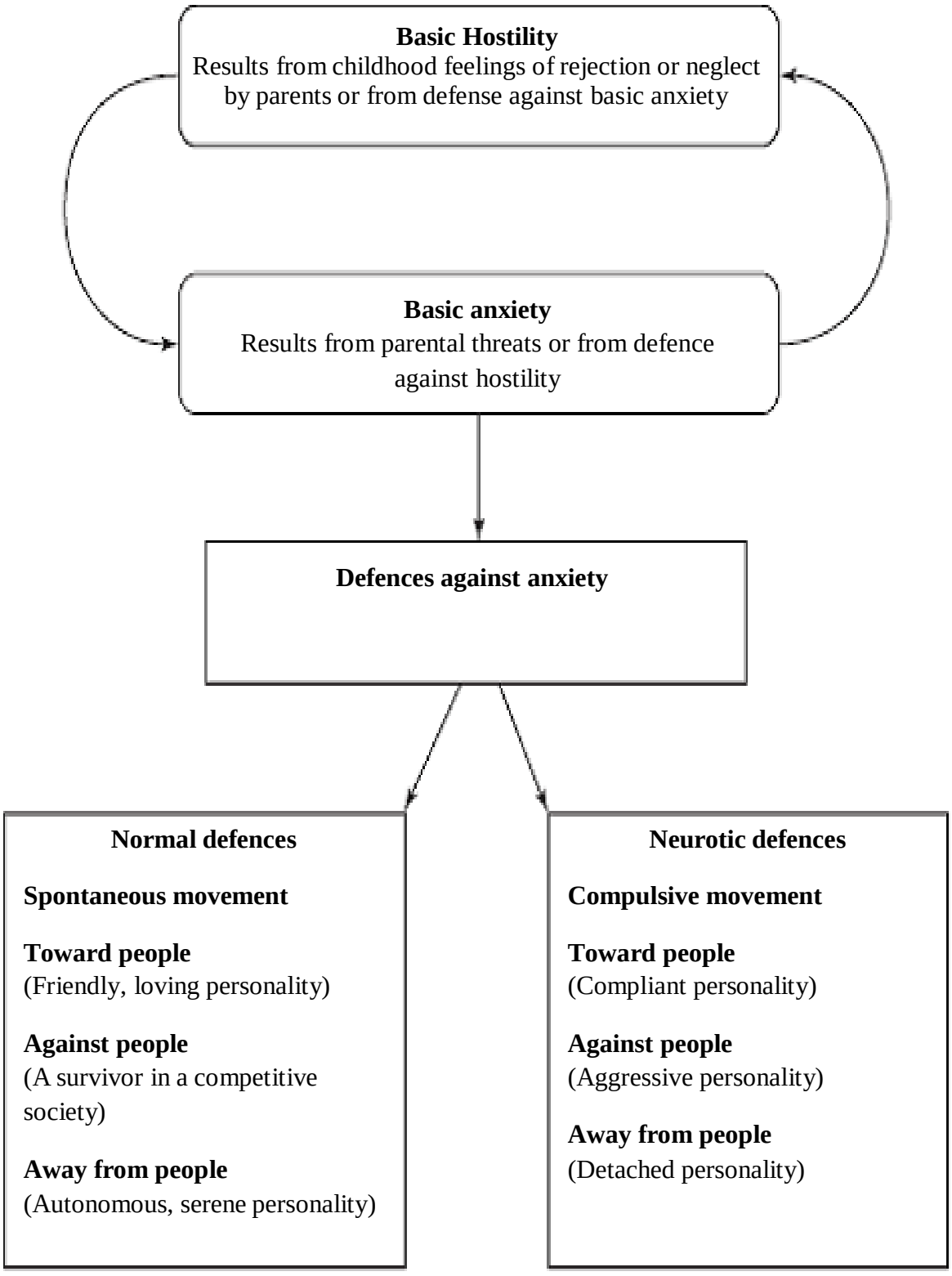

Figure 5: The Interaction of Basic Hostility and Basic Anxiety with the Defenses against Anxiety

Nowadays, people who suffer to an extreme degree from anxiety can be diagnosed as having "Generalized Anxiety Disorder". Torpy et al. (2011) define generalized anxiety disorder (GAD) as the persistent and excessive worry about a number of different things. Like normal anxiety, people with GAD may expect disaster to happen or be overly worried about health, money, work, family, or other issues. However, what separates it from normal anxiety is that it can be chronic and debilitating where the person suffers from difficulties controlling it on more days than not. Generally, the person is diagnosed with having GAD if he suffers from it for at least six months with three or more GAD symptoms. The following table from the American Psychiatric Association (1994) summarizes the criteria to tell if the person has GAD or normal anxiety and worry:

Table 5:

Generalized Anxiety Disorder diagnosis

Diagnostic Criteria for Generalized Anxiety Disorder:
• The patient reports having excessive anxiety and worry (apprehensive expectation), occurring more days than not for at least 6 months, about a number of events or activities (such as work or school performance). • The patient has difficulty controlling worry. • The anxiety and worry are associated with three or more of the following six symptoms (with at least some symptoms present for more days than not for the previous 6 months): restlessness or feeling keyed up or on edge, being easily fatigued, difficulty concentrating or mind going blank, irritability, muscle tension, sleep disturbance (difficulty falling or staying asleep, or

restless, unsatisfying sleep).

- The focus of the anxiety and worry is not confined to features of other types of psychiatric disorders (e.g., panic disorder, social phobia, obsessive-compulsive disorder, separation anxiety disorder, anorexia nervosa, somatization disorder, or hypochondriasis), and the anxiety and worry do not occur exclusively as part of post-traumatic stress disorder.
- The anxiety, worry, or physical symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
- The disturbance is not due to the direct physiological effects of a medication, substance abuse, or a general medical condition (e.g., hyperthyroidism) and does not occur exclusively during a mood disorder, a psychotic disorder, or a pervasive developmental disorder.

The treatment for GAD is usually psychological before trying prescribed medication. NHS (2018) states various psychological treatments such as Guided self-help (through the support of a therapist), Cognitive Behavioural Therapy (also known to be the most efficient treatment for GAD where it helps the patient to question his anxious and negative thoughts and do things that he usually avoids because they make him anxious), Applied relaxation. If psychological treatments are not enough, medications are suggested for GAD patients.

In terms of treating anxiety, May (1950) suggests ways of dealing with it that go in line with our research. He states that there are two common processes adapted by schools of psychotherapy for treating anxiety. The first is the expansion of awareness, where the person sees what goal (value) is threatened, while making him aware of the conflicts between his value and how did the conflict develop. The second is Re-education, where the person restructures his goals, by making a conscious

choice of values, and then proceeds responsibly and realistically towards attaining these values. Neurotic and objective anxieties are not the only categorization that anxiety had known. In fact, there are different categories made due to the nature of anxiety that can take into account the source of that anxiety. For instance, these sub-categories can be speech anxiety, language anxiety, social anxiety, and the type of anxiety we are focusing on in this study which is test anxiety.

3.2 Test Anxiety

Given the importance of exams in our test-conscious culture since they greatly influence people's lives, it is not surprising that testing situations can be a source of anxiety. Test anxiety can be intense to the point of needing professional assistance to aid with its debilitating effects. Chapell et al (2005) define test anxiety as the set of phenomenological, psychological, and behavioural responses that accompany concern about negative possible results or failure in the test or an evaluative situation. Another definition is that test anxiety is the reactions to stimuli that are associated with the person's experience of evaluative situations (Sansgiry & Sail, 2006). It is evident that test anxiety can be an unpleasant experience that plays a role in the personal life of many individuals. Furthermore, this unpleasant experience can hinder the person's performance according to many researchers who had shown an association between test anxiety and poor academic performance ((Culler & Holahan, 1980; Dendato & Diener, 1986; Musch & Bröder, 1999; Wine, 1971; Wittmaier, 1972).

Test anxiety got several characteristics according to Sarason (1975):

- The situation is seen as challenging, difficult, and threatening.
- The student sees himself as inadequate, or ineffective, in handling the provided tasks.

- Self-deprecatory preoccupations are more intense and can compete or interfere with task-relevant mental activity.
- The student anticipates and expects failure and to be looked down on by other people.

3.3 The underlying roots of test anxiety

We mentioned beforehand several physiological effects of anxiety such as: being tense, restless, sweating, trembling, and so on. However, some theorists argue that the physiological effects are not what hinder the individual's performance during the test, or at least not to a big degree. To check what causes the reduction in the performance, the work of Carver and Scheier, 1981, 1986 may shed the light on the matter through their explanation of anxiety. They claim that people continually establish standards, intentions, and goals for themselves, be it for the long-term or short term, and they use them as reference points. When people perform an action, they self-attentively monitor the action according to those reference points. If needed, they make adjustments to make some kind of conformity between their action and what they intend to do. We refer to that as discrepancy reductions which are basic self-regulation through feedback control. The discrepancy is an unexpected difference between two things that should be the same, so discrepancy reduction is a response to reduce the gap between the ideal expectation and the actual state. For instance, during the examination, an ideal expectancy is that the individual is capable of solving the tasks of the exam, however, when his actual state is being incapable of answering them, he would feel a sense of discomfort, irritation, or dejection. This is why he tries to reduce the gap between the ideal state and the actual state through discrepancy reduction. Rogers (1980) illustrates that self-regulation usually goes smoothly and easily but sometimes difficulties and problems occur in form of environmental

impediments or conflict between competing reference values. Specifically, that anxiety arises if people find themselves in circumstances where behaving in line with their reference value threatens to enlarge the discrepancies in regards to other reference values like acceptance from other people, physical safety, holistic personal integration, or personal comfort. Consequently, Simon (1967) says that the rising of anxiety due to such enlargement of discrepancy serves as a warning signal to the individual that he should consider changing his behavioural priorities. That is to say, anxiety serves as an interrupter of the action and a call to reconsider which goals are more in need of immediate effort and attention.

This is not to say that all anxiety impairs performance as sometimes anxiety may energize the individual to focus and put more effort. Therefore, we delve deeper to understand how anxiety can be an impediment. Several researchers pointed out that physiological arousal reactions due to anxiety were found in both people with high test anxiety and low test anxiety (Deffenbacher and Hazaleus, 1985; Hollandsworth, Glazeski, Kirkland, Jones and Van Norman, 1979; Holroyd, Westbrook, Wolf and Badhorn, 1978). Charles et al (1988) argue that what makes the difference in performance is how the individual orients and responds to anxiety and the situation in general. Deffenbacher (1980) and Morris and Ponath (1986) add that dysfunctional effects of test anxiety occur due to cognitive "worry" and not due to the emotional arousal of anxiety. And whereas different variables in cognitive processes may lead to impairment or disruption of the behaviour, according to Charles et al (2006), there is one critical variable that determines whether the impairment will happen or not. The variable is the individual's expectancy (favourable or unfavourable) of whether he believes he can cope with the anxiety that is being experienced or not, whether he can finish the task or not. In other words, if the person

expects to be able to cope and he is sufficiently confident about being capable of finishing the task, his response to anxiety arousal would be with renewed effort and motivation. The result would be enhanced persistence and better performance. However, if the person has severe doubts about his ability to cope and expects bad outcome of the situation, it is not likely that he will persist in the face of this anxiety. He would be more inclined to give up to the impulse of disengaging from the current activity. Charles et al (1988) illustrate that in Figure 6:

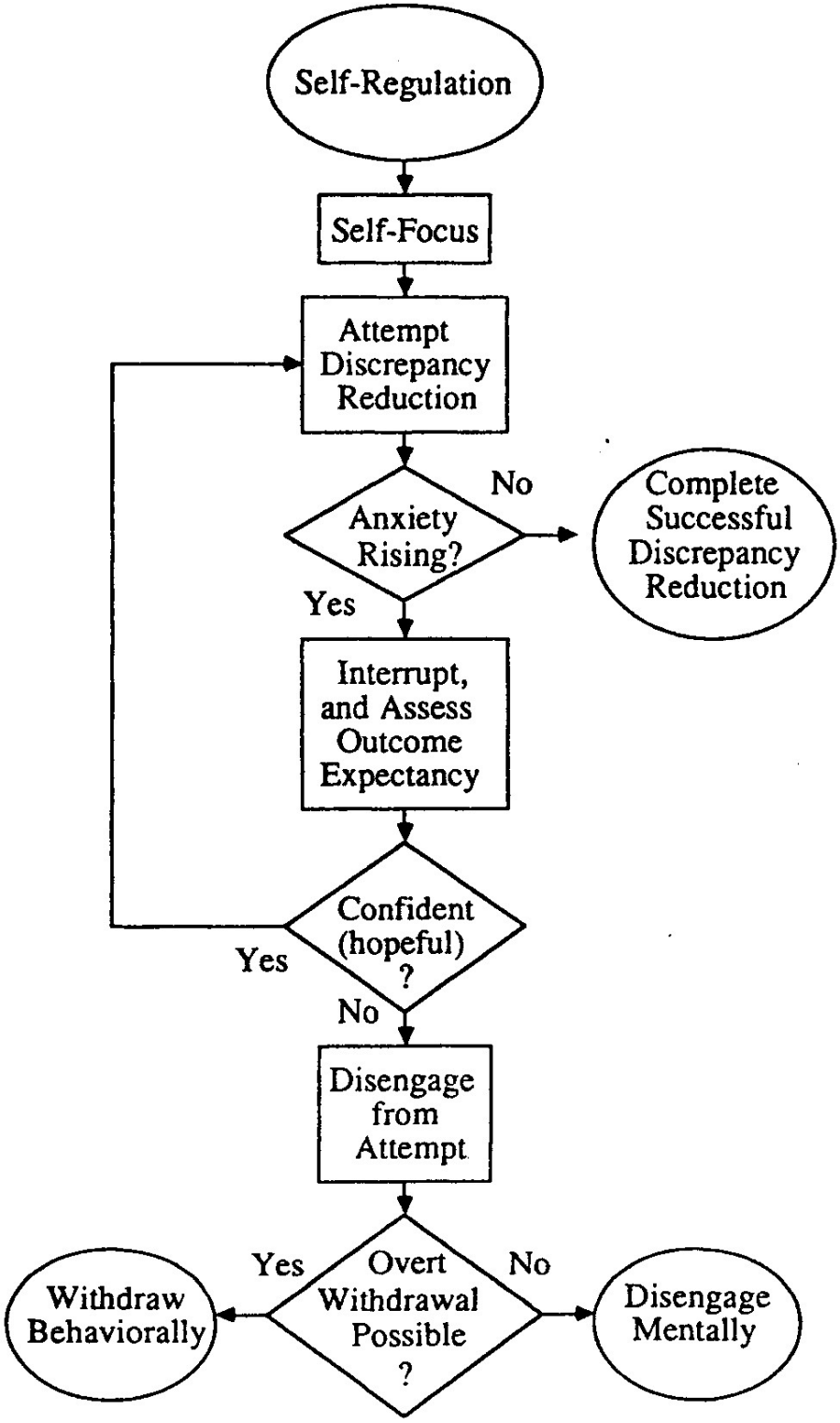

Figure 6: Flowchart diagram of the various consequences that can follow from the attempt to match one's behaviour to a standard of comparison in a situation that is anxiety-provoking. As indicated here, behaviour may be interrupted if anxiety rises

noticeably (or if difficulties or impediments are encountered). What follows this interruption is determined by the person's expectations about whether or not continued efforts will promote a good outcome.

We find supporting ideas for this chart in Galassi, Frierson, and Sharer's (1981) research where they found that the most frequent thought that test anxious students had during their test is the urge to escape. This desire may lead to an overt withdrawal from the situation or can be expressed through a more subtle disengagement of making any effort to attain the desired goal. For instance, the test-anxious can leave the test place physically (Withdraw behaviourally), or forfeit mentally (mental disengagement). This, in turn, can cause impairment in the performance when the attention is self-directed (Carver et al., 1979, 1983; Rich and Woolever, in press).

In daily life, people who suffer from anxiety can do things to self-distract or have off-task thinking. But during a test or some other situations, such psychological disengagement is hindering for the test. And the persistence of such anxiety will increase its harm. Being in a cycle of doubt, disengagement, reconfronting anxiety again, and renewing the doubts causing high anxiety can often cause a phenomenology of self-deprecatory rumination. Wine (1971, 1982) and Sarason (1975) call this self-deprecatory rumination "self-focus". The view of highly test-anxious people as highly self-focused come to be known as the cognitive-attentional theory of test anxiety, but the theory was also applied to other kinds of anxiety.

While Wine and Sarason accurately described the experience of test-anxious people using the label of "self-focus", Carver and Scheier (1986) see that

being self-focused is not negative and is not the determining factor for the functional or dysfunctional response to anxiety. They clarify that the person's deteriorating performance due to anxiety pressure can be due to self-focus but that is because of the person's attention to the deficits of the self, self-doubting, and fears of being unable to attain the desired goal. However, if the person had been focusing on favourable expectancies he would remain task engaged.

3.4 Differentiating Between Anxiety, Stress, Fear, Dread, and Phobia.

When it comes to such terms, there is a visible confusion that is apparent even within the scientific literature we have on such terminology. They are used interchangeably sometimes, and other times can literally mean the same thing. For this reason, we seek through this title to clarify some of the confusion by giving an operational definition to the terms we use, at least, to facilitate communicating the intended meaning of this research. That is to say, the way we define these terms is how they should be interpreted when mentioned in this study. We drew your attention to the previous remark to say that the definitions provided are not aimed to give a general standardized definition because there is not one that is followed by all the scientific community. According to C. Eugene Walker, who is a notable clinical psychologist, defining such psychological terms proved to be difficult even for psychologists who are experts in the field. We will also attempt to link the definition to our research needs by comparing how the terms intertwine or differ from anxiety.

Anxiety:

According to Sadock BJ & al (2015) anxiety is the unpleasant, diffuse, vague sense of apprehension that is often a response to an unknown or imprecise threat such

as the feeling of uneasiness when walking down a dark street alone. The feeling of uneasiness, in this case, is caused by anxiety related to the possibility of facing something bad like being attacked by a stranger rather than an immediate threat. So the anxiety stems from the mind's interpretation of the possible dangers. Linking this to our Test Anxiety, we deduce that one of the causes for it could be students' unknown fate in case they fail their exams. They worry that failing an exam means a failed career which ultimately leads to an unknown bad fate in life. David Viscott (1996) adds that anxiety is fear of hurt or loss which can lead to anger and then to guilt, and if the guilt persists it leads to depression. According to Ankrom, anxiety is accompanied by these physical symptoms:

- Acceleration of heart rate
- Pain in the chest area
- Derealisation (feeling detached from your surroundings) and depersonalization (feeling detached from your body)
- Hot flushes or cold chills
- Feeling of fainting or dizziness
- Sweating excessively
- Feeling as if you are going insane
- Headaches, tension, muscle pain
- Tingling or numbness
- Pulsing or a ringing in the ears
- Trembling and shaking
- Being out of breath
- Disturbance in sleep

- Tightness feeling across the body, especially in the neck, jaw, face, and head.
- Nausea or upset stomach

It is worthy to mention that not all anxiety causes such symptoms, and that anxiety at normal levels causes no harm yet when exceeding that level it becomes a disorder and causes such symptoms along with other disorders according to the American Psychiatric Association (2013).

Stress:

The common generalized literary description for stress according to Humphrey J (2003) is "a constraining force or influence". When we apply this to the human body, it could mean that there is a force or influence from the external environment caused by the stressor. Hans Selye (1979) describes it as a nonspecific response of the human body to the demands made upon it. Therefore, there is a stressor that the human organism reacts to through being stressed. The reaction or the response to that stimulus could include various chemical and physical changes in the organism. These changes occur when the person finds it hard to adapt to the increasing effort demanded of him, as he seeks to maintain a state of equilibrium between him and the external or internal demand.

While stress is the psychological and emotional state of the mind caused by a stressor, anxiety is the adaptive response to stress often manifesting as an unpleasant emotional state. Though the literature we have on the two terms seems to be using them interchangeably which leads to the chicken and egg controversy on whether anxiety caused stress or stress is caused by anxiety.

Fear

While anxiety could be caused by ambiguous or unknown consequences like when we mentioned that one of the causes of test anxiety is fear of an unknown future in case of failure. Fear is a response to a definite and known threat. If you are walking in a dark tunnel, for example, and then someone points a gun at you saying "do not move". You are likely to experience fear instead of anxiety, because the threat is definite, real, and there is a present clear object of fear.

Even with differentiating between the two terms, they are still interrelated in the sense that fear causes physical reactions that we describe as anxiety. Anxiety can cause fear, and fear can cause anxiety, but in order to treat the two, it helps to make a distinction between them and know what the person suffers from.

Dread

Dread like the previous term is closely related to our terminologies, in fact, most dictionaries such as Merriam Webster dictionary define dread as the intense fear, or a great fear and extreme uneasiness in the face of a disagreeable prospect. The Atlantic website (2014) mentions in an article that the difference between fear and dread is like the difference between waiting for a painful dental procedure in the lounge and watching the drill actually coming at your mouth.

The difference shows up more in the medical field. Several neurologists such as Martin Goldstein found out that during dread a collar-shaped brain region is activated, and it is called the anterior cingulated cortex (ACC). This area of the brain is not activated during normal fear. Another experiment was done on patients with epileptic seizures, where Dr. Josef Parvizi and his colleagues investigated a part of the brain that is called the anterior mid-cingulate cortex (aMCC). They found that the area can be stimulated by electrodes and the patients who were stimulated that way

reported extraordinarily strong emotions of dread, yet also determination and willingness to persevere through the challenge they face. One of the patients reported that it feels like driving through a storm yet felt positive to push harder and try to get through it (Parvizi et al., 2013).

Phobia

Phobia is the irrational fear of things that are not likely to cause harm such as the fear of water is called hydrophobia, fear of blood is hemophobia, and so on (Wodele, 2019). People with phobia experience a deep sense of panic or dread when they encounter the trigger for that fear. The source of their fear can be a situation, a place, or an object. According to Wodele (2019) unlike anxiety disorders, a phobia is usually connected to something specific. For instance, anxiety can stem from fearing the unknown while the phobia is triggered by something known as the extreme fear of spiders.

The effect that phobia can have on a person ranges from slight annoyance to severely disabling that they cannot even move. People with a phobia can realize their fear is irrational but still cannot do much about it even if it interferes with their work, relationships, or school. According to the Healthline website (2019), there are 19 million Americans who suffer from a phobia in different areas of their lives.

About causes of phobia, they can be genetic or environmental. Children with relatives that suffer from anxiety disorder are at a bigger risk of developing a phobia. Distressing events and traumas can be the cause as well, such as drowning, extreme heights, exposure to confined spaces, and insect or animal bites, all those can be the source of the phobia (Alebiosu et al, 2019). Other reasons could be brain injuries, depression, and substance abuse.

The most disabling symptom of phobia is known as a panic attack, and it includes the following symptoms:

- Racing or pounding heart
- Having a short breath
- Inability to speak or rapid speech
- Dry mouth
- Nausea
- Upset stomach
- Elevation in blood pressure
- Shaking or trembling
- Tightness in the chest or pain
- A choking sensation
- Profuse sweating
- Lightheadedness or dizziness
- A sense of impending doom

Conclusion

We conclude that emotional intelligence did not come to life from one source or in short time, but due to a long time of evolvement.

We also see that emotions are various and there are some major differences between anxiety, stress and similar emotions that are used interchangeably.

Chapter Two: A Critical Perspective of the Pedagogical management of anxiety and Emotional Intelligence.

Introduction

This chapter deals with reviewing the literature and research done concerning the two variables, as well as drawing attention to the necessity for the emotional intelligence in the educational atmosphere.

1. Emotional Intelligence in Education

Interaction and communication are essential when it comes to teaching since interpersonal communication is the base of any class. That is to say, students and teachers as well should understand one another and develop a sense of empathy tolerance, and patience especially in beginner classes. EI skills help the teachers to identify what sort of emotion is expressed through their students' faces, their tones of voice, and body language which will allow the teachers to handle the calls in a better way especially when it comes to dealing with misbehaviours and problems that occur in the classroom. It is evident that a teacher who is able to sense what his students feel about learning and then interferes effectively when they are demotivated, anxious, or dissatisfied gets a better overall result when it comes to teaching. In that sense, EI is beneficial as Goleman (1995) claims that possessing this ability allows for better communication and creates a good learning atmosphere. Sucaromana (2012) adds that emotionally intelligent teachers are bound to have an emotionally intelligent classroom. On the other hand, teachers with low EI levels will not influence or help their learners to improve their EI skills. Farooq (2014) said: "To teach is to touch the heart". As we notice through our experience, teachers who care about their learners and their feelings are more likely to achieve personal and professional success. On the same note, Cherniss and Goleman (2001) argue that there is emotional intelligence of individuals and emotional intelligence of the group, and they both influence each

other. The individuals contribute to the EI level of the group they are in, and are also affected by the EI level of that group; in other words, their EI level increases or decreases according to that group. Even if that is not the purpose they set in the classroom, people can affect one another negatively or positively, and relationships inside the classroom are no exception. So, EI works as an internal mechanism that also affects the external environment when it comes to the process of learning. However, not all relationships are effective in the positive sense, which is why students should keep a positive surrounding that helps them improve their abilities.

On another note, Mayer et al (2007) found a positive relationship between EI and academic success in education and academic competencies such as mathematics skills, cognitive abilities, reading skills, and motivation to succeed. Fernández-Aráoz (2001) says that "performance is a function of the product of two variables: Performance = (Experience and IQ) x (EI Competencies)" (p. 191). From this, we get that IQ is crucial for success but EI complements it, seeing that learners who are emotionally intelligent possess more confidence, positive thinking, and motivation which gives them more focus during class and consequently helps them retain the information provided during the class better than those who are not quite as motivated due to low levels of EI. In addition, Sucaromana (2012) adds that having high EI levels helps in developing a positive attitude towards the learning of a foreign language.

An effective teacher does not solely rely on his IQ and experience for it neglects the affective filter that the students go through. By affective filter, we mean all the emotions that can hinder their learning, be it fear, shyness, stress, anxiety, peer pressure, and such negative emotions that works as an obstacle to optimal learning. Since EI skills include empathy so teachers would be able to put themselves in their learners' shoes to attend to their educational needs. Shao et al (2013) argue that

teachers must respect students, appreciate their efforts, tolerate their mistakes, validate them, be aware of their differences, and do not let frustration get in the way when learners do not grasp information as quickly as they are expected to. When it comes to learning methods, students do not learn the same way or have the same drive/motive for learning and the teacher should be aware of that both in theory and practice. From the students' side, working on their empathy will give them the ability to be aware of the difficulties that the teacher faces so they can have a better-managed session where they would avoid problems that they usually would cause which allows for smoother and more fruitful session…

2. Literary Review on Test Anxiety

The phenomenon of test anxiety has received wide attention since the 1950s. It represented a common problem for educational systems, rendering students unable to feel confident about their ability to answer different tasks. This, in turn, was reflected in their performance and test grades. Spielberger (1962) supported this view through a study done on college students, where it was found that only 8 out of 138 low-anxiety students dropped out of college due to academic failure, whereas 26 out of 129 high-anxious students dropped out for the same reason.

Zeidner (1998) defines test anxiety as a set of physiological, phenomenological, and behavioral responses that accompany the expectation of failure in an evaluative situation such as an exam and being concerned about negative consequences. Similarly, Sarason et al (1990) stated that individuals with high text anxiety did worry about the possibility of failure, social rejection, and embarrassment when they were not exposed to the evaluative situation, however, when they are in

one, such worries become active. We should note that high anxious students do not necessarily lack drive or intellect.

Several researchers found that test anxiety affects students' performance such as Everson & Millsap (1991) where they stated that deficits related to test-anxiety interfere with the academic performance of the students. Going deeper to understand the reasons for such hindrance in performance, the study of Liebert & Morris (1967) showed various results. Their study conducted an analysis on the responses to Sarason and Mandler's Questionnaire (TAQ: Sarason & Mandler, 1952). They found that TA had two major components. The first one was emotionality which was represented as a physical reaction to the evaluative situation, for instance, sweating, nervousness, pencil-taping, constantly checking the clock, and so on. The second component was worry, and it comprises of the cognitive or psychological aspect of anxiety. Liebert & Morris (1967) said: "Worry relates primarily to cognitive concern(s) about the consequences of failure". Since such worry and concerns cannot be directly observed by the teacher or the instructor it is not likely for them to be able to tell who suffers from test anxiety among their students. And even the measures used cannot accurately determine students' levels of anxiety. What is observable is the emotional responses that were stated before. However, Morris and Liebert's study (1970) affirms what we mentioned before in chapter 2 that worry has a stronger negative relationship with performance than physiological responses. Which in hand suggests that thoughts and cognition about the evaluative situation are what carries an impact on students' performance.

Further researchers attempted to identify how test anxiety affects academic performance, seeing that this effect happens due to several factors. Some of those

researchers believed that the source of test anxiety lies in the learners' poor preparation. The studies they conducted suggest that ineffective organization or information processing is what leads to performing poorly on exams. Naveh-Benjamin et al (1987) conducted a study comparing highly test-anxious students to less anxious ones and found that students with difficulties organizing material learnt to suffer more test anxiety. Culler and Holahan (1980) support this claim with their findings that students with less effective study habits suffer more test anxiety. Hembree (1988) as well, suggests that the lack of effective study skills damages students' performance during evaluative conditions, which in turn adds a heightening feeling of anxiety to the next evaluative scenario. The results of these studies suggest that improving study skills and teaching them will help reduce test anxiety and enhance performance.

Other researchers disagree about the before mentioned point. Zeidner (1998) states that lack of preparation cannot explain test anxiety because even highly motivated and conscientious learners suffer from debilitating anxiety that still hinders their performance. In his point of view, academic performance depends on information processing routines that control comprehension and learning of the classroom material, for instance, working memory, focused attention, and long-term memory retrieval, processes that can be biased due to personality factors.

Studies by Mealey & Host (1992) state that the major causes of test anxiety are "the habitual, irrelevant, negative thoughts that some students have during a testing situation". According to them, there are three main categories of anxious students. The categories are:

1. Those who do not have adequate test preparation and study strategies. They identify that deficiency and know they are not prepared so they worry about the testing situation.
2. Those who have adequate strategies and use them but get distracted during the evaluative situation.
3. Those who think they have adequate strategies while in reality, they do not, which leads to poor performance and more anxiety due to wondering about the actual reason for their poor results.

Sarason (1980) states that factors that make the students worry are the learners' capacity, the fear of getting bad grades, the task difficulty, and the lack of preparation for it. He also states that highly test anxious students have a hard time controlling their attention. He refers to some of the factors like the task difficulty as "Evaluation stressors" and suggests that there is enough evidence to prove that high test anxious students perform worse on more complex tasks. Similarly, Gaudry and Spielberger (1971) share his view with their study that showed high-anxious students perform better than low-anxious ones on simple tasks, yet the more complex the task is the more poorly they perform compared to low-anxious students. Zeidner (1998) supports this view saying that test anxiety is surely more detrimental to tasks that are more demanding and hard.

Delving more into the evaluative stressors, literature on test anxiety shows that the main factors that have an impact on students' reactions are test validity, test techniques, time limit, test format, length, clarity of the instructions, and the testing environment (Young, 1999). When it comes to test validity, Young's study (1991) showed that students experience more anxiety if the elements of the test were not

taught in the classroom. As for the time limit factor, Ohata (2005) found that learners felt pressured with time constraints when it is short and they have to organize their ideas quickly. Regarding test technique, Young (1991) said that students feel more anxious when they are faced with new types of questions that they had no experience of before. Furthermore, Ohata's study (2005) also showed that most participants admitted their fear of taking the tests is due to their fear of negative consequences if they get bad grades. His findings add up with Paul and Eriksen's study (1964), where they have given the first-year of university students a traditional examination on their course, letting them know it is counted on their final grade. Then, immediately after the exam they handed them a test anxiety questionnaire and after it, they provided them with an examination in parallel form to the previous one but this time they let them know that the marks would not be taken into count regarding their grades. The results of this study have shown that highly anxious students performed better on the non-stressful examination that was not counted, whereas low-anxiety students did better in the traditional exam.

Sometimes, the type of test can lead to test anxiety as well. Considering that different learners possess a different set of skills, and the exam usually limits the students to show their skills in a certain manner, the result could make students uncomfortable. For instance, some students panic when they have to answer in form of an essay, and others become anxious during an oral exam. Thus, according to Van Blerkomp (2009), different types of tests can make students anxious.

Aside from these factors, we also include Hembree's study (1988) where he found that different conditions like students' ability, gender, and school grade level can lead to a rise in differential test anxiety levels. Other research claims that there is

a difference in anxiety levels between males and females (King et al., 2000); with males generally self-reporting lesser levels of test anxiety symptoms than females. It is worth noting that taking this study into consideration is valuable when it comes to analysing the outcome measures of self-reported test anxiety.

Despite the fact that test anxiety can be due to several factors and have different effects, it is undeniable that it causes impairment in the performance of a considerable number of students. This further stresses the need of recommending ways to reduce it in order to improve students, teachers, and the education system as a whole.

3. Literary Review on Emotional Intelligence Training

With the recognition of EI's importance in people's lives be it at an individual, organizational, and social levels. Scholars sought to increase EI levels and went with various programs to do so. Ulutas & Omeroglu (2007) state that it is possible to increase children's EI while Ruiz-Aranda et al (2012) add that it is possible for adolescents too. However, they claim that it is harder for adults to increase their EI even though it is possible, but the plasticity of the brain is less in adults which makes it a more challenging task. Mayer & Salovey (1993) said that it was believed that intelligence levels are relatively fixed but several researchers claimed that EI skills and competencies can be taught, developed and learnt regardless of the person's age (e.g. Jacobs, 2001; Gardner, 1983; Cherniss & Goleman, 2001). Saarni (2007, p.17) states that "the process of teaching and learning the skills, knowledge, and dispositions that allow people to understand, process, manage and express the social-emotional aspects of their lives"

According to Kahraman (2013), The EI training programs usually come in two categories: pre-service training which is either integrative or discrete and in-service training. The pre-service one is when educational institutions offer learners the training for a period of time so they would be ready to start a professional career like teaching. The integrated one makes it so the EI skills are integrated within the curriculum and the language presented while the discrete one solely focuses on the EI skills without targeting the language much. In the in-service training, employees are offered the training by an organization or a company to improve their skill and knowledge of the job which in hand increases their performance. Kahraman (2013) adds that they use a variety of techniques during the training such as group discussions, presentations, role play, exercises, demonstrations, stories... etc. BarOn (2007) states that the trainees should not be blindly learning those skills, but they should be told explicitly what kind of skills they are being taught in order to benefit more. One of BarOn's EI workshop (2007) is based on Mayer and Salovey's (1993) four-branch model of EI where he provided the participants with in-depth knowledge about the model raising awareness about EI skills that can be applied to professional practices as well as daily life. Goleman (2001) based his framework for the EI training program on the same model with the aim of training participants' self-awareness, self-regulation, self-motivation, social skills, and empathy. The length of that training was four days, with the duration of half a day each day. Some of the trainings that were done are in the following table:

Table 6:

Emotional Intelligence Trainings

References	Emotional Intelligence	Design and Participants	Duration of the Intervention	Description of the Intervention	Findings from pre- and post- tests
Beigi and Shirmohammadi, 2010	Mixed-model (Boyatzis, Goleman, and Rhee, 2000)	-Pre-/Post-test design: EI assessed before and 2 weeks after end of intervention without control group - N=68	8 sessions of 120 min over an 8-week period	-Intervention was designed individually to help the employees regulate their emotional reactions toward customers -Each EI branch was trained separately in their own working environment -Sessions consisted of lectures with examples and stories, with a discussion	ECI-2 (360°) including self-, subordinate-, supervisor-, and peer-ratings: -
Clarke, 2010	Ability model (Mayer et al., 2002)	Pre-/Post-test design - 1 intervention group (N=64) - 1 control group (N=13) of UK MBA students	1 day training + 14 week team project	1. 1-day training self-awareness session: Individual and group-based exercises where participants considered different aspects of their own emotional intelligence abilities (both intervention and control group) 2. 14-week team-based learning intervention: Production of a written team report and reflection and discussion on how the team was working together. Team (4-6 persons) met independently. (Intervention group only)	MSCEIT V2.0: partial +, only for "Using Emotions to Facilitate Thinking" Gender and age were measured as covariates

Crombie, Lombard, and Noakes, 2011	Ability model (Mayer et al., 2002)	Randomized controlled clinical trial design for two years, pre- and post-test before and after the intervention, for each year: - 1 intervention group (N=12) - 1 control group (N=12)	10 three-hour sessions of intervention	Workshop format: 1. Introduction of case studies to familiarize the athletes with EI and its four branches as well as their relation to sports performance 2. Possibility for athletes to recount their own experiences relative to EI topic 3. Athletes kept journals of insights gained from the program	MSCEIT: +

References	Emotional Intelligence	Design and Participants	Duration of the Intervention	Description of the Intervention	Findings from pre- and post- tests
Di Fabio and Kenny, 2010	Ability model (Mayer et al., 2002)	- Pre- /post-test control group design; EI assessed before intervention and one month following the completion - 1 intervention group (N=23) - 1 control group (N=25)	4 sessions (2 1/2 hr), weekly	Each session focused on one of the four branches of EI: 1. Perceiving emotions in oneself, others, objects, arts, stories, music, etc. 2. Ability to generate, use, and feel emotions to communicate feelings or for other cognitive processes 3. Understanding emotions, how they combine and progress 4. Ability to be open to feelings and to modulate them in oneself and others	MSCEIT: + Self-reported EI: NS Indecisiveness: - Decisional difficulty: partial +

Jahangard et al., 2012	Mixed model (Bar-On, 2004)	Pre-/post-test; EI assessed before and after intervention - 1 intervention group (N=15) - 1 control group (N=15)	12 sessions of at least 45 min over a period of 4 weeks (3 sessions/week)	Group sessions during which EI was taught: emotional self-awareness, improving flexibility, strengthening the selection power and recognition of barriers to the right choices, improving communication skills and interpersonal skills, strengthening ability to cope with distress, problem-solving skills and skills in meeting high- level needs	Bar-On EQ-i: + Depression: -
Kotsou et al., 2011	Mixed model - knowledge, ability, trait- (Nelis et al., 2009)	Experimental design; Emotional competencies were measured before (1), one month after (2), and one year after (3) intervention - 1 intervention group (N=72) - 1 control group (N=60)	2 1/2-day program (15hr) in 5 blocks	1. Acquisition and improvement of five core emotional competencies (Identifying, understanding, expressing and managing emotions, using emotions to enhance thinking and actions) e.g., by means of discussions, self-observations, role-plays	- self-reported EI (TEIQue-SF): + - informant-reported EC by spouse or close friend (TEIQue 360°-SF): + - life satisfaction + - perceived stress - - cortisol levels - - somatic complaints -

References	Emotional Intelligence Theory	Design and Participants	Duration of the Intervention	Description of the Intervention	Findings from pre- and post- tests

Kotsou et al., 2011	Mixed model - knowledge, ability, trait- (Nelis et al., 2009)	Experimental design; Emotional competencies were measured before (1), one month after (2), and one year after (3) intervention - 1 intervention group (N=72) - 1 control group (N=60)	2 1/2-day program (15hr) in 5 blocks	2. Revision, discussion, reflection and feedback 3. 1-month internet follow-up for encouragement to apply the intervention	Age, gender, and cognitive ability were measured as possible moderators
Nelis et al., 2011	Mixed model - knowledge, ability, trait- (Nelis et al., 2009)	-2 studies, with pre-/post-test design; EI assessed before (1), right after (2), and 6 months after (3) the intervention -Study 1: training group (N=29), control group (N=29); -Study 2: EI training (N=34), drama improvisation group (N=31), control group (N=27)	Studies 1 and 2: 18h of training + personal diary + e-mail follow-up	-Techniques to enhance EI skills (perception, appraisal, and expression of emotions, emotional facilitation of thinking, understanding and analyzing emotions, reflective regulation of emotions) were taught by means of short lectures, role-plays, discussions, two-person works, and readings -Participants were asked to keep a diary	Study 1: TEIQue: + Emotion Regulation: + Emotion Understanding: + Big Five: extraversion +, agreeableness +, and neuroticism - Study 2: psychological well-being: + subjective health: +
Nelis et al., 2009	Mixed model - knowledge, ability, trait- (Nelis et al., 2009)	Pre-/post-test design; EI assessed before (1), right after (2), and 6 months after (3) the intervention - 1 intervention group (N=19) - 1 control group (N=18)	4 sessions of 2 1/2 hrs over a 4-week-period with 1- week-intervals	-Techniques to enhance Emotional Intelligence skills (perception, appraisal, and expression of emotions, emotional facilitation of thinking, understanding and analyzing emotions, reflective regulation of emotions) were taught by means of short lectures, role-plays, discussions, two- person works, and readings -Participants were asked to keep a diary	TEIQue: + Emotion regulation: + Regulation of others' emotions: + Emotion identification: NS Emotional understanding +

References	Emotional Intelligence	Design and Participants	Duration of the Intervention	Description of the Intervention	Findings from pre- and post- tests

Slaski and Cartwright, 2003	Ability model (Mayer et al., 2002) and mixed model (Bar-On, 2004)	Pre-/post-test design; EI assessed before and 6 months after the intervention - 1 intervention group (N=60) - 1 control group (N=60)	1 day/week 4-week period 1-week intervals	based on Cherniss and Adler (2000) Experimental methods and development of insight were used to develop self-awareness and detachment. Participants were instructed in techniques for emotion regulation, recognition of emotions in others, and understanding the impact of one's behavior on emotions of others, by means of discussions, role-plays, paired exercises, and emotions diaries.	Bar-On EQ-i: partial + (except subscale for interpersonal factors) General health: + Psychological outcomes: + Management performance: NS
Zijlmans, Embregts, Gerits, Bosman, and Derksen, 2011	Mixed model (Bar-On, 2004)	Pre-/post-test design - 1 intervention group (N=34) - 1 control group (N=26)	4-month program including three 90min video feedback sessions	1. Training on concept of EI, its significance, and Bar-On EQ-i; individual feedback in EQ-i profiles 2. Formulation of personal goals and goals concerning the client and of development plans for the following four months in subgroups 3. Realization of development plans; feedback sessions and video feedback	Bar-On EQ-i: partial + (only on intrapersonal and adaptability scales)

Note: + significant increase; - significant decrease; NS: non-significant; EI: Emotional Intelligence; ECI-2: Emotional Competence Inventory (Gowing, 2001); Bar-On EQ-i: Bar-On Emotional Quotient Inventory (Bar-On, 2004); TEIQue: Trait Emotional Intelligence Questionnaire (Petrides, 2009b); MSCEIT: Mayer, Salovey, and Caruso Emotional Intelligence Test (Mayer et al., 2002).

Cognitive Behavioral Therapy (CBT) is a form of psychological treatment that has shown to be effective in dealing with a range of issues such as anxiety disorders, mental illnesses, and depression (Society of Clinical Psychology, 2017). There have been numerous studies that show that CBT techniques can be used to improve one's emotional intelligence. A study made by Masjedi et al (2015) where they found that CBT improves emotional intelligence and general health of students and therefore should be used to increase students' emotional intelligence. Dr. Gillihan (2016) who is a licensed psychologist states that there are no risks to using CBT and that anyone can perform it on their own, that it does not need a therapist to conduct. He adds that many students benefited from CBT using the internet-based treatment and self-help books. For this reason, we saw that it is suitable to adapt CBT techniques in Mayer and Salovey's four-branch model of EI, in order to improve our training. It is worth noting that we have used the help of a clinical psychiatrist just in case someone's anxiety was triggered during the training. Luckily there was no such case and the training was fine.

4. The Effect of the Training on Emotional Intelligence

In the heated debate of nurture versus nature, there is no denying that a big part of the person's EI is set biologically depending on his genes. However, according to Mathews. G et al. (2002) there are other factors that can interfere with EI. They are summarized in the next figure:

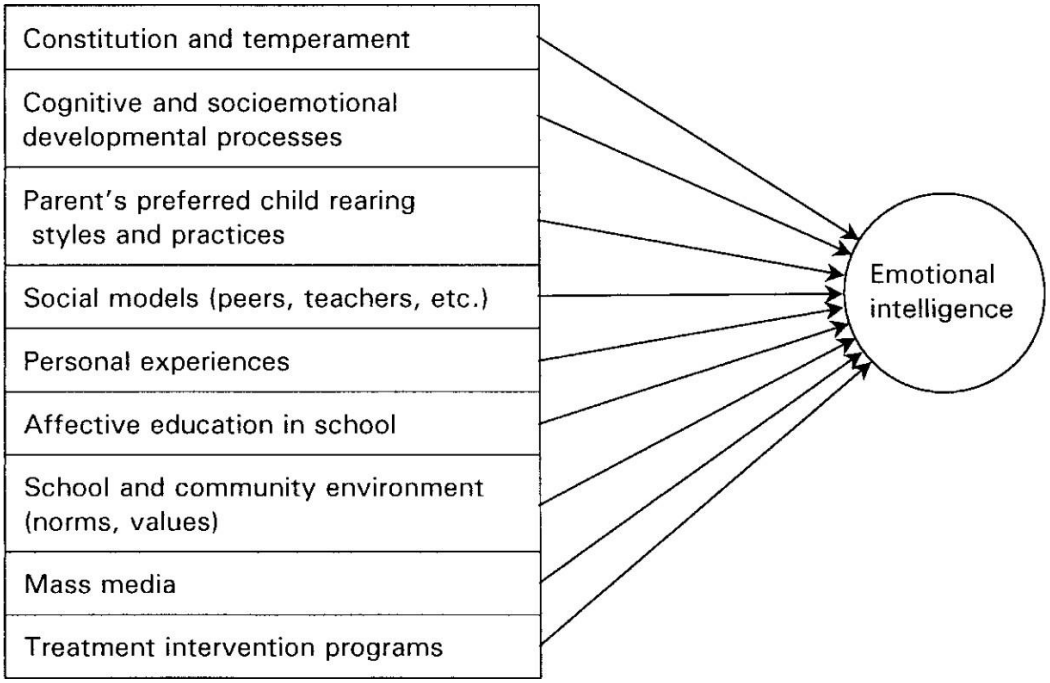

Figure 7: Configuration of etiological factors in the development of EI.

The factor we are addressing in this research is the intervention programs or trainings. Nowadays, there are a lot of intervention programs made to teach emotional competencies at schools, including cognitive-behavioral modification, self-management, social skills training, and multi-modal programs (Topping, Holmes & Bremner, 2000). The idea of addressing students' social and emotional problems through school-based programs became popular among educators especially around the last decade according to Mathews. G et al. (2002). The Collaborative for Social and Emotional Learning at the University of Illinois announced that more than 150 various emotional training programs are being used by thousands of American schools.

Through all of those emotional literacy programs EI elements can be observed as shown in this example of one of those programs (Lantieri et al, 1998):

Resolving Conflict Creatively Program (RCCP)

Developers Linda Lantieri (Aber, Jones, Brown, Chaudry & Samples, 1998).

Target populations Grades K-12, with emphasis on elementary school.

Aims To help children think, feel, and act adaptively in situations of interpersonal conflict by making children aware of the different choices they have for dealing with conflicts and help children develop skills for making those choices; encourage children's respect for their cultural backgrounds and those of others; make children aware of their role in creating a more peaceful world; and teach children how to identify and stand against prejudice. Activities aim to reduce youth violence by promoting constructive anger control and conflict resolution skills; to improve intergroup relations; and to foster a caring and peaceful community of learning.

Program focus Program goals are addressed in a 25-hour teacher's training program, and a program emphasizing peer mediation for children in grades 4–6. Program activities focus on expressing negative feelings; regulating angers in self; and conflict resolution skills. Following are a number of basic themes in the RCCP: curriculum: (a) Cooperation—through a variety of cooperative activities, youngsters learn to value co-operation with peers; (b) Caring—students learn to speak their feelings and actively listen to others through role playing and simulations; (c) Expression of feelings—Students are encouraged to express both their positive and negative feelings through role playing and group exercises; (d) Appreciation of diversity—Students are taught to honor differences and discuss issues of prejudice and discrimination; (e) Responsible decision making—Students are taught the Decision Making Model, such as telling what the problem is; finding as many solutions as possible; deciding which one is good and choose and act on it; (f) Conflict resolution—Students explore negative and possible consequences of different ways of handling conflict, (aggression, collaboration, compromise, appealing to authority). The curriculum focuses on key skills relevant to developing conflict resolution skills: active listening, assertiveness, expression of feeling in appropriate ways, empathy and perspective taking, cooperation, negotiation, and methods for countering bias. Some students are trained as monitors or mediators in order to give children the opportunity to use the conflict resolution skills they have learned outside the classroom. The instructional methods used in the program are diverse, including role-playing, interviewing, and group discussion, brainstorming, teachable moments, and other experiential and affective strategies.

Elements of EI addressed This program emphasizes a number of components of EI such as: identifying one's own negative feelings in conflict situations; regulating anger in ones self; and taking the perspective of others and empathizing with other's feelings.

Program assessment The RCCP program was Implemented in New York City in over 100 elementary, middle, and high school among over 40,000 children. The program was evaluated based on 2 waves of developmental data, including 5053 children from grades 2 to 6 from 11 New York elementary schools (Aber, Brown, Henrich, 1999). Those receiving a high number of lessons had a significantly slower growth in self-reported hostile attributions and teacher-reported aggressive behavior, compared to children receiving a low number of lessons (Aber, Brown, Henrich, 1999). Patti and Lantieri (1999) report that an independent evaluation released in May 1990 by Metis Associates found that more than 87% of the teachers said that RCCP was having a positive impact on their students. Teachers and administrators reported the following changes: decreased violence in the classroom; increased used of conflict resolution skills, increased self-esteem and sense of empowerment; enhanced awareness of feelings, more caring behavior, and acceptance of differences. Another study found that participating students showed declining dropout rates and suspension rates. Also, about 92% of the students felt well about themselves and 64% of the teachers reported less physical roles.

Figure 8: Sample of Emotional Intervention Program called Resolving Conflict Creatively Program (RCCP)

Most of these programs were made to address these points:

- Problem-solving;
- Coping with environmental stress and negative emotions.
- Awareness and understanding of emotions in self and others.
- Impulse control.
- Emotion regulation.
- Perspective-taking and empathy.

While these programs have a lot in common with EI elements, one criticism that can be addressed is that they were not specifically designed to improve EI. However, the training we chose for our research is made for EI skills so this concern is addressed. This is not to say that EI training is flawless, it has its own critics and scholars like Mathews. G et al. (2002) admit that there is very little empirical evidence generated by the studies to choose one intervention program over the other, or if the programs deliver what they promise.

Part Two: The Fieldwork

Chapter Three: The Exploratory Study

1. Exploratory Study and Validation of the Problem

a) Introduction

We conducted a preliminary investigation at the level of The University of Batna 2 (Mostefa Ben Boulaïd), specifically, we asked first-year students in the English department. Our main aims of the pilot study are to check if the problem exists among students and to highlight their experiences and perspectives about it. Two methods will be used to gather data which are a psychometric test-anxiety interview and a test anxiety scale. The Test Anxiety Psychometric Interview was adapted from the website www.psycom.net, which is the third largest site in the US that focuses exclusively on mental health and has its facts checked. The interview comprises 7 questions, where they answer from ‘’never’’ to ‘’very often’’. Through this interview, we aim to see to what extent students suffer from Test Anxiety symptoms. As for the Test-Anxiety Scale, we used Sarason Test Anxiety scale. This scale uses true or false format to check students’ TA scores.

b) Psychometric Interview with the Students about their Anxiety Levels.

With the aim of checking if the issue exists among students and highlighting it, we conducted a structured interview with 10 first-year English students from group 5 at the level of the English department at Batna 2 University, in the academic year 2018/2019. Those selected 10 were chosen randomly from the group members and the interview was done after their class, each one separately. The interview contained 7 questions to which they can respond from ‘’never’’ to ‘’very often’’ and the results

were recorded in a prepared form (check appendix), ticking their answer as they respond. During the interview, we greeted the participants and explained the purpose of the interview, the expected duration, and the animosity nature of the interview. Furthermore, the format of the interview and how they can respond were instructed before asking them the questions. The population of the interview answered all the questions that were asked. And the data collected on the prepared form can be presented in a pie chart for a better understanding of their response. The results are shown below:

Results:

Question 1: Do you experience fear, anxiety, or helplessness before or during a test?

Figure 9: Students' negative emotions before or during the test.

We find that only one said they suffer from these negative feelings very often, one said often, three of them reported that they feel that sometimes, and the other three said rarely. Only two of the 10 students said that they had never suffered from such negative emotions.

Question 2: Do you procrastinate on studying because you fear performing poorly on tests?

Figure 10: Students procrastination due to fear of performing poorly.

Three of the participants reported that it is rarely that their procrastination is due to fear of performing early. The other three said that it is never the factor in their procrastination. Two said sometimes and the remaining two answered with often.

Question 3: Have you performed poorly on a test in the past and fear repeating the same performance?

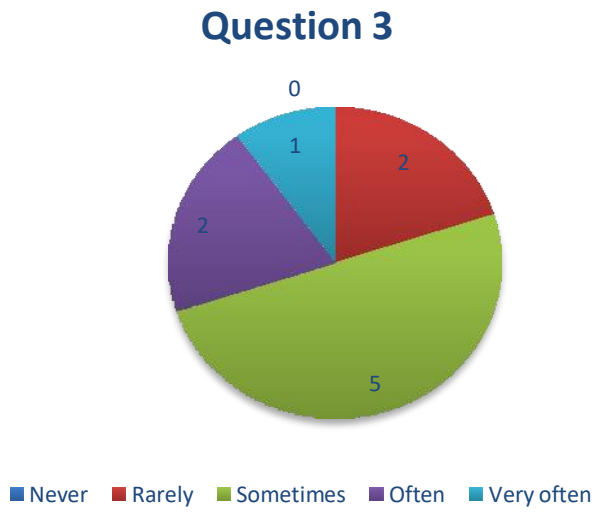

Figure 11: Students fear of performing poorly due to previous bad experience

Five students said that sometimes their previous bad experience makes them fear performing badly again on the test. Two said rarely, and the other two said often. The last one said very often.

Question 4: Is it ever difficult to imagine yourself doing well on a test?

Figure 12: Students' perception of their test performance.

Most of the students (Four of them) answered that they sometimes find it difficult to imagine themselves doing well on the test. Three said rarely, 2 reported that it is often difficult, and one said never.

Question 5: Do you "blank out" or have trouble concentrating during a test?

Figure 13: Students' troubles with concentration during the test

Three students reported that it is very often that they experience issues with concentration during the test. The other Three said that it is often the case for them. Two said sometimes, and the remaining two said rarely. None said that they do not have this issue at all.

Question6: Do you experience nausea, sweating, racing heart, shortness of breath, or dizziness during a test?

Figure 14: Students' physical symptoms of test anxiety

None of the students reported suffering from physical symptoms of anxiety very often, but one of them reported that it often happens to him. Two said that it happens sometimes, four said rarely, and the last two said it never happens and that they suffer physical symptoms of anxiety during the test.

Question7: Have you had to exit a testing area before you finish due to high anxiety?

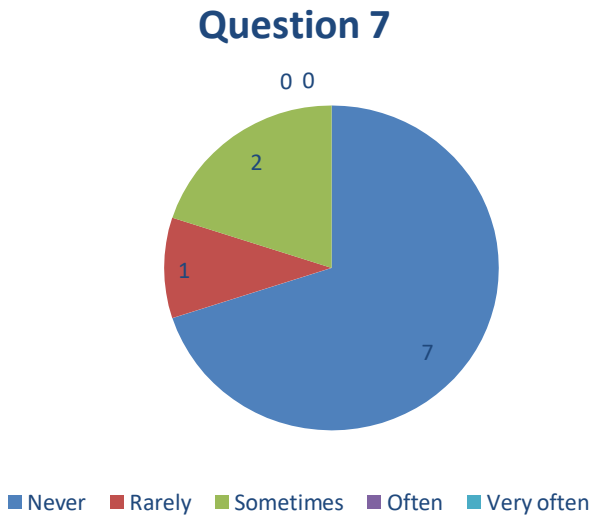

Figure 15: Students drop rate from the exam due to anxiety.

The majority reported that they did not have to leave due to anxiety. However, two said that sometimes they had to, and one answered rarely.

Discussion of the results:

The results show there is a considerable number of students suffering from negative emotions before or during the test. Basically, 90% of the participants reported having such feelings at least on a rare basis. For some, it led them to procrastinate due to their fear of performing poorly. In addition, all of the participants confirmed their fear of performing poorly on the test due to performing badly on a previous one. This leads us to think that previous bad experiences could be a major factor in future anxiety. The majority of them also reported that it is hard to imagine

doing well in a test sometimes, while the rest had different degrees of sharing that same sentiment, but none of them said they never have such difficulty. The majority also reported having problems with concentration, and that it can happen sometimes, often, or very often. We notice that none of them is free from this issue of concentration. However, we cannot link their troubles with concentration to a single factor; this was merely to gather qualitative data on students' issues. For the physical symptoms, the majority suffer from them rarely with 10% suffering from them often. As for the last question, we can derive from it that it is rare to see people exiting the exam room due to anxiety, or at least the small sample that we chose. However, it is not farfetched and it happened to some of them.

c) The Test-Anxiety Scale Findings.

The test-anxiety scale was distributed to 20 first-year English students of group 5 in the academic year 2018/2019 for the purpose of testing their test anxiety levels. The test was conducted in one of their grammar session in the last 30 minutes and those who finished were allowed to leave. The collected data can be shown in the table below:

Results:

Table 7:

The students' scores of Test Anxiety

Students	Test Anxiety
1	19
2	31
3	22

4	28
5	18
6	20
7	12
8	29
9	13
10	28
11	31
12	11
13	20
14	23
15	16
16	14
17	23
18	10
19	23
20	16

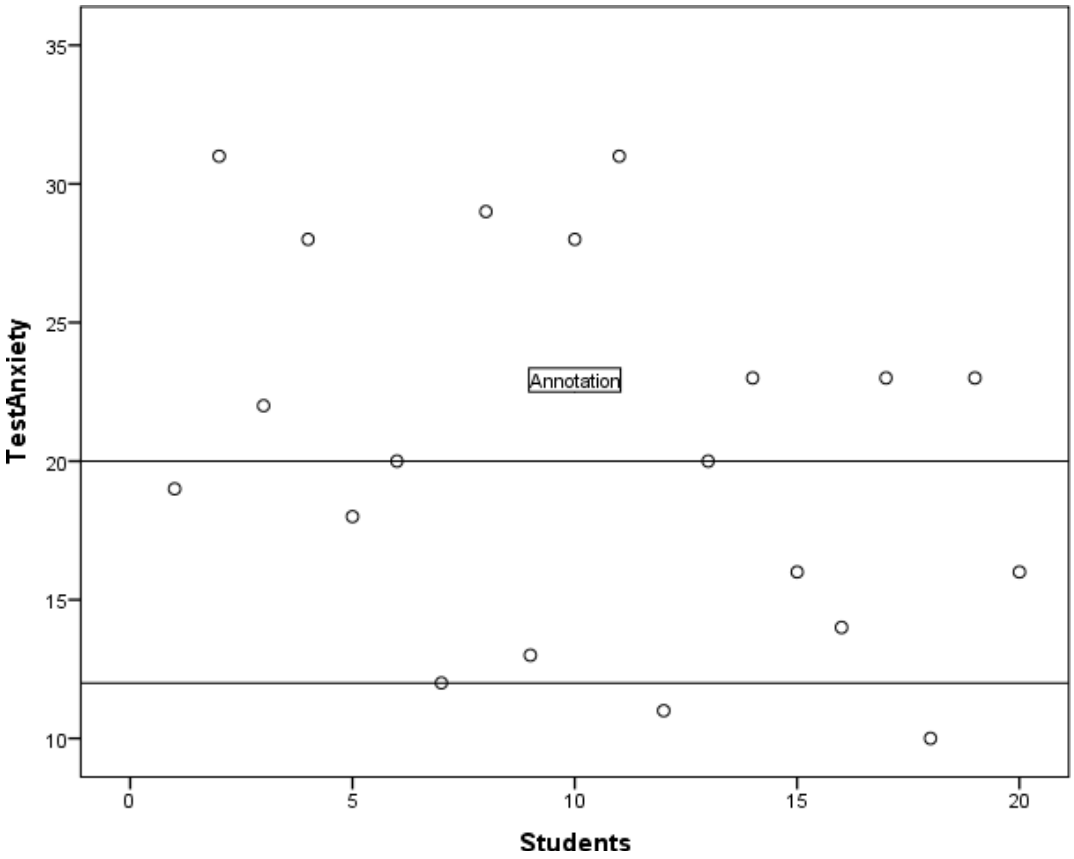

Figure 16**:** Students' Test Anxiety scatter plot.

Anxiety scores under the line of 12 indicate low levels of test anxiety.

Anxiety scores between 12 and 20 indicate medium levels of test anxiety.

Anxiety scores above the line of 20 indicate high levels of test anxiety.

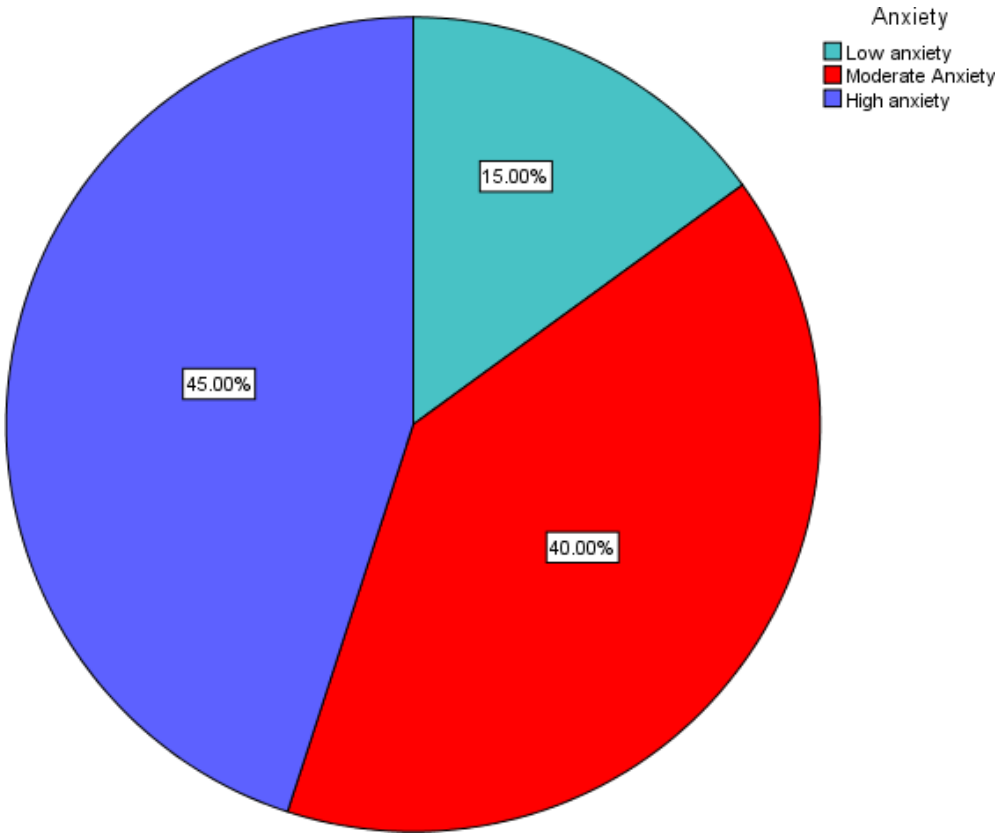

Figure 17**:** Students' Test Anxiety pie chart

Only 15% have shown low levels of anxiety. And almost half the participants (45%) got high levels of anxiety. The rest 40% revealed moderate levels of anxiety.

Discussion of the results:

Very few among the 20 participants (15%) have low levels of anxiety, while the majority suffer from high levels of anxiety (45% of the participants). These numbers are concerning and confirm quantitatively the existence of the problem among the students seeing that the majority of them scored high in anxiety. The scatter plot also shows the disparity in the data, that students' levels of TA are not close to each other, but rather some have it high, some low, and some moderate.

d) Conclusion

The results of the exploratory study show that the majority of the participants suffer from high levels of test anxiety or other similar symptoms and issues. The

results were alarming and confirm the existence of the problem both quantitatively through Test anxiety scale and qualitatively through the interview they answered to. This in hand calls to check if this problem exists on a bigger scale than the small one we used for the exploratory study.

Chapter Four: The Emotional Intelligence Training and its Findings

1. Explanation of the Happenings during the Procedure.

During the year 2018 when we embarked on the pre-testing and the treatment for the first-year university students in Batna 2 University's English department, there were some circumstances that might have interfered with the procedure.

First of all, there was some form of protest that people made called "Hiraq" and almost everyone participated in it which made a lot of students skip classes. Due to skipping classes students may have feared attending exams to a higher degree than usual which may add to their Test Anxiety.

The procedure took 5 weeks instead of 4 due to the whole class not coming on the 4th week to attend Hiraq.

The experimental and control group supposedly had 50 students, but only 48 attended from the control group and 43 from the experimental group, as that number got lower over the weeks. The numbers went down to 45 for the control group and 40 for the experimental group.

2. The Methodology Design

a) The Research Paradigm

Research is conducted to bridge the gap between theory and reality. In our case, in theory, if the student receives formal education at the level of the university, studies well, and prepares for his exam, he would perform well. However, we encounter sometimes cases where even with such effort the student does not get good results. We perceive this as a mystery, a gap that research should solve in order to

solve the issue and improve education. The pointed issue here which may serve to enhance that gap is that the students suffer from Test Anxiety which hinders their performance. Our suggested treatment for the issue is Emotional Intelligence Training. Thus, our research will aim to check if EIT can cause a reduction in such anxiety and minimize the issue. Therefore, our research investigates causality. Following that point, the research paradigm we chose is a mix of two paradigms. The first one is positivism which is according to Scotland (2012) "Positivists go forth into the world impartially, discovering absolute knowledge about an objective reality where the researcher and the researched are independent entities" (p. 10). According to Kivunja & Kuyini (2017, as cited in Saidouni, 2019):

> A central tenet of positivism is that social reality is objective, and it is not affected by the investigation or the investigator. Investigation situated in this paradigm counts on deductive logic, formulation of hypotheses, testing those hypotheses, offering operational definitions and mathematical equations, calculations, extrapolations, and expressions, to derive conclusions. Under this paradigm, researchers conduct empirical studies based on experiments and observations to explain a phenomenon happening in the reality. In this regard, the positivist paradigm adopts objectivity as its epistemology, realism as its ontology, and experiment as methodology. (p. 123)

This paradigm suits our desired goal of drawing empirical data and analyzing them but it lacks insight about the subjective experience of the individuals. Therefore, a second paradigm that encompasses the subjective world of human experience is called the interpretivism paradigm (Guba and Lincoln, 1989, as cited in d in Kivunja & Kuyini, 2017, p.33).

Our research needed the combination of the two paradigms, fortunately, there is a paradigm that encompasses both and it is called pragmatism. This paradigm came to light when there were debates saying that "it was not possible to access the 'truth' about the real world solely by virtue of a single scientific method as advocated by the positivist paradigm, nor was it possible to determine social reality as constructed under the interpretive paradigm" (Kivunja & Kuyini, 2017, p.35) according to them this paradigm represents a non-singular reality ontology, a relational epistemology, and mixed methods methodology.

This study aims to use mixed methods which is why our paradigm of choice was the pragmatism one.

b) Research Approach

The choice of the research approach would be with the goal of finding answers to our research questions. We can mention two research approaches, qualitative and quantitative. Quantitative research attempts to measure the variables by gathering numerical data, quantifying attitudes, or systematic observation while staying objective to the reality of the data. Dörnyei (2007) states that "Quantitative research involves data collection procedures that result primarily in numerical data which is then analysed primarily by statistical methods. For instance, the survey research which uses a questionnaire that is analysed by statistical software such as SPSS" (p.24). Some of our research questions ponder on the learners' levels of anxiety and EI which requires the gathering and analysis of such data. Thus, we found the need for such an approach. The quantitative method consists of several approaches which are the **inferential approach** which aims to infer characteristics about the population, the **experimental approach** which seeks to manipulate the variables to observe their

effect on one another, and the **simulation approach** which generates information in an artificial environment. We chose the quazi experimental method due to the previously mentioned goals.

As for the qualitative approach, Dörnyei (2007) states that "Qualitative research involves data collection procedures that result primarily in open-ended, non-numerical data which is then analysed primarily by non-statistical methods. For instance, interview research with transcribed recording. The data gathered from the recording is later analysed by qualitative content analysis" (p.24). Qualitative insight into the learners' experience of the training we provide would be beneficial for our question answering. Therefore, we opted for a qualitative opinionnaire to gather such qualitative data. Kothari (2005) says about this method:

> The qualitative approach to research is concerned with the subjective assessment of attitudes, opinions, and behaviour. Research in such a situation is a function of the researcher's insights and impressions. Such an approach to research generates results either in non-quantitative form or in the form which are not subjected to rigorous quantitative analysis. (p.5)

We can observe in the next table the difference between qualitative and quantitative approaches.

Table 8:

Comparison between qualitative and quantitative approaches (Minchiello et al. 1990, p. 5)

	Qualitative	Quantitative
Conceptual	Concerned with understanding human behaviour from the informant's perspective	Concerned with discovering facts about social phenomena
	Assumes a dynamic and negotiated reality	Assumes a fixed and measurable reality
Methodological	Data are collected through participant observation and interviews	Data are collected through measuring things
	Data are analysed by themes from descriptions by informants	Data are analysed through numerical comparisons and statistical inferences
	Data are reported in the language of the informant	Data are reported through statistical analyses

Since we are interested in both methods, we ought to use the mixed-methods approach or what is called "Triangulation". Mackey and Gass (2005) state about this method:

> The growing practice of utilizing qualitative and quantitative data illustrates the fact that these two research approaches should not be viewed as opposing poles in a dichotomy, but rather as complementary means of investigating the complex phenomena at work in second language acquisition. (p. 164)

We found that using both methods would aid in our understanding of the issue a little more. For instance, the numerical data we gather about students' test anxiety would show us their levels of anxiety, but their subjective answers to what they think is the factor for this anxiety could be of equal importance to our research.

c) Choice of method and design

The correlational research design shows correlation and not causation, which is why we chose the experimental design to investigate the existence of causal impact between Emotional Intelligence Training and Test-Anxiety. The population of the experiment here is predetermined groups of university students and since the participants were not randomly selected but the administration selected who goes in what group, the research design is a quasi-experimental one.

Any research design encounters threats to its validity. For example, an extraneous variable that was not put into account; like if the participants in our research were taking psychology classes that were helping them deal with their anxiety, that counts for an extraneous variable that threatens our results. Thus, the researcher has to select a design that minimizes those threats. According to Cook and Campbell (1979), the threats to validity can be internal or external:

Internal validity: It refers to whether an experimental condition/treatment makes the difference or not, and it also has to do with whether there is sufficient evidence that supports the claim. The factors that can jeopardize the internal validity are:

- History: Refers to the events that occur between the first and second measurements.

- Maturation: It is usually a threat when the process takes a long time such as years. In this case, the participants could improve their performance whether they took the treatment or not.

- Testing: Refers to how taking the first test can affect taking the second test.

- Instrumentation: Changing the tools, scorers, or observers can produce changes in the outcome.

- Statistical regression: Can be called regression to the mean. This one is caused by selecting participants with extreme scores or characteristics. For instance, if someone selects students with the worst score to be participants, the treatment can show immediate improvements.

- Instrumentation: It has to do with the measurement method and whether it changed or not during the research.

- Selection of subjects: It is a bias that can occur when selecting a comparison group. Randomization (the random assignment) of groups is a way to solve this threat.

- Experimental mortality: When there is a loss of subjects. For instance, in an online instruction project called 'Eruditio', there were 161 participants but only 95 of them have completed the entire project. Those who stayed until the end of the project may have been more motivated to learn which made them score higher in performance. We notice this in our research too, that few of the participants dropped out and stopped taking the training or testing.

- John Henry effect: John Henry was undergoing an experiment and he outperformed a machine because he was aware that he is competing with a machine.

- **External validity:** It refers to the ability to generalize the treatment/condition outcomes. The factors that can jeopardize the external validity are:

- Reactive or interaction effect of testing: The pre-test may decrease or increase the participant's sensitivity or responsiveness to the variable of the experiment. "The

effect of the pretest on the subsequent tests has been empirically substantiated" ((Willson & Putnam, 1982, Lana, 1959).

- Interaction effects of selection biases and the experimental variable.

- Reactive effects of experimental arrangements: It is hard to generalize to a non-experimental setting if the effect is attributable to an experimental arrangement of the research.

- Multiple treatment interference: If multiple treatments are given to the same subjects, it is hard to control the effects of prior treatments.

The quasi-experimental design that we chose for this study is the Interrupted Time Series Design with Comparison group. It makes use of several waves of observation before and after the introduction of the treatment which provides a check on several validity threats that we can find in other designs. To demonstrate our design, we will refer to the treatment with X and the measurement with M. So our design would be:

M1 M2 X M3 M4

We conducted two pre-tests before introducing the treatment and two post-tests after the treatment. The point of the second pre-test is to check for some threats to validity such as history, maturation, or if the testing made them answer better in the next test. During the study, there were several events that could influence the students' test anxiety such as "El Hirak" which reduced the number of sessions students have. Therefore, we took some time before pre-testing again to check if another event is influencing

the variables other than our treatment. We will talk more about which threats this design could control during the discussion of the findings.

In addition to the used measurements, we used an opinionnaire to gather more data on how well the training was perceived by the participants and their thoughts about its efficacy. We wanted to know to which extent they think the training helped them in reducing their anxiety and whether it helped at all or not. The opinionnaire contained five open-ended questions (check appendix) and the participants were encouraged to express their thoughts on the matter and provide feedback. Their answers were treated to add more data to the findings and their authenticity and relevance.

Seeing that we used both an experimental approach and a qualitative opinionnaire, our choice of method is clearly the mixed-methods design.

d) Instruments and measures

In addition to using the psychometric interview and opinionnaire, the scales that we used to measure TA and EI are The Sarason Test Anxiety Scale and the Emotional Quotient Inventory (EQ-i). We shall talk about their validity and how to use them in this part:

i. Sarason Test Anxiety Scale:

Troyn (1980) states that the Sarason Test Anxiety scale is one of the most famous surveys to measure TA. The items of the questionnaire are made to test several aspects of TA like students' reaction tension, intrusive thoughts, and physical symptoms. To test this questionnaire's consistency, Sarason relied on Cronbach's Alpha, the measure of internal consistency that shows how a set of items are closely

related as a group. His test reported the Cronbach's Alpha of 0.91 which indicated a relatively high internal consistency (Having a reliability coefficient of 0.70 or higher is considered "acceptable" in social science research situations). To evaluate students' performance in this test, we count their total number of "True" answers in the questionnaire. If the score is 12 "True" or below it represents a low range of TA. If the score of the student is 12-20 "True", it indicates a medium range of TA, and if they scored above 20 "True", it signifies a high range of TA.

ii. The Emotional Quotient Inventory (EQ-i):

This EI scale is the most widely used assessment of EI scores around the world. It was made by Bar-On in 1997. It is a self-report form with 133 items to answer in a Likert scale format where the response ranges from (5) 'Strongly Agree', (4) 'Agree', (3) 'Undecided', (2) 'Disagree', to (1) 'Strongly disagree. It gives us information on five factors of EI with 15 sub-components which are: (1) intrapersonal EQ, composed of emotional self-awareness, assertiveness, self-regard, self-actualization, and independence; (2) Interpersonal EQ, composed of empathy, relationship skills, and social responsibility; (3) adaptability, composed of problem-solving, reality testing, and flexibility; (4) stress management, composed of stress tolerance and impulse control; (5) general mood, composed of Self-Actualization, Optimism, and Happiness. The EQ-i is appropriate for people aged 16 years and more. We used a briefer version that has 88-item instead of 133. It takes about 25 minutes to finish. The test-retest reliability and validity for the EQ-i are excellent (Bar-On, 2007). The way to interpret the results is by adding up the responses that the participants put for each of the 88 items. Then, we get a raw score which we compare to the mean and standard deviation using this formula:

Standard Score = (raw score – Mean) / Standard Deviation × 15 + 100

After the formula, we find EI scores ranging from 50 to 150, and the interpretation of the results goes as follows:

- 50 - 70 Very much below average
- 70 - 90 Below average
- 90 - 110 Average
- 110 - 130 Above average
- 130 - 150 Very much above average

3. The Implemented Emotional Intelligence Training

The training that was done comprised six sessions throughout 5 weeks. Each session was done in one hour. The first session was an introductory one in the first week. The second and third were in one day in the second week. The fourth and fifth were in one day on the third week. And the last concluding session was on the fifth week. In the fourth week, students didn't attend their classes due to the circumstances that were mentioned before in "Explanation of the Happenings during the Procedure".

The training was according to the four branches ability-based model of EI (Mayer & Salovey, 1997) and was adapted from Nelis et al (2009) training outline according to this model. The following table shows the training that was done briefly before we proceed to talk about the sessions in more detail.

Table 9:

Outline of EI training sessions

Sessions	The training
1st Session	A Welcome-Explanation of the training introduces the importance of emotions and explains the key concepts such as EI and TA through video clips and presentations. Introducing the use of some techniques such as personal diary, role-play, and Cognitive Behavioral Therapy techniques.
2nd Session	The second session's main theme was "Identifying Emotions" The activities were: 1. Reviewing the previous session 2. Accurate perception of emotions: About the self about the others 3. Accurately expressing emotions The techniques used in this session are: 1. Drill with the METT program to identify emotions. 2. Facial expressions, body language, and voice tones 3. Emotion Checklist for videos 4. Story

3rd Session	The theme of this session was "Using Emotions" To enhance reasoning, decision-making, and expressing emotions. The self-help techniques used in this session are: 1. Creative visualization 2. Active listening 3. Role-play on expressing emotions 4. Positive Self-talk
4th Session	The theme of this session was "Understanding Emotions" The self-help techniques used in this session are: • How to manage a conflict? Theory and roleplay • Reflecting on past experiences • Story

5th Session	The theme was "Managing Emotions" The activities included: • Coping strategies and their effectiveness: theory and group discussion. • Managing Feelings of the Self • Managing Feelings of Others The self-help techniques used in this session are: Creative visualization 1. Positive Self-talk 2. Mind-body connections and relaxation exercises. 3. Breathing Exercises
6th Session	In this concluding session, we recapitulated what we have seen so far and discussed the importance of emotions and managing them. The participants were encouraged to learn from their mistakes and make efforts to apply what they have learnt in real life. After summarizing our training we had some question and answer part to finish our training.

First session:

During the first hour, the objectives of the training were introduced to the students which were to improve their emotional intelligence and help them reduce their test anxiety. The students were encouraged to participate actively in the training due to its lasting benefits not only in their educational life but also in other domains such as career and personal relationships. The session included:

- The explanation for the different concepts related to the topic and its technical terms.
- Raising their awareness about EI and the causes of TA.
- Allowing students to share their knowledge and beliefs about emotions, and then enriching their knowledge about the different theories relating to emotions such as:
    - Emotional valence which is “Emotional valence describes the extent to which an emotion is positive or negative, whereas arousal refers to its intensity, i.e., the strength of the associated emotional state“(Feldman Barrett & Russell, 1999; Lang, Bradley, & Cuthbert, 1997; Russell, 2003).
    - Cognitive appraisal process which is the way the individual interprets stimuli in the environment. In other words, he responds to stressors in life and his interpretation of them (Lazarus, 1999). In addition to that, we spoke about Cognitive Motivational and Relational theory, notions of challenge/threat, and of goal congruence/ incongruence (Lazarus, 2000). We then explained the pragmatic process model of an Emotional Episode by Kotsou et al (2011):

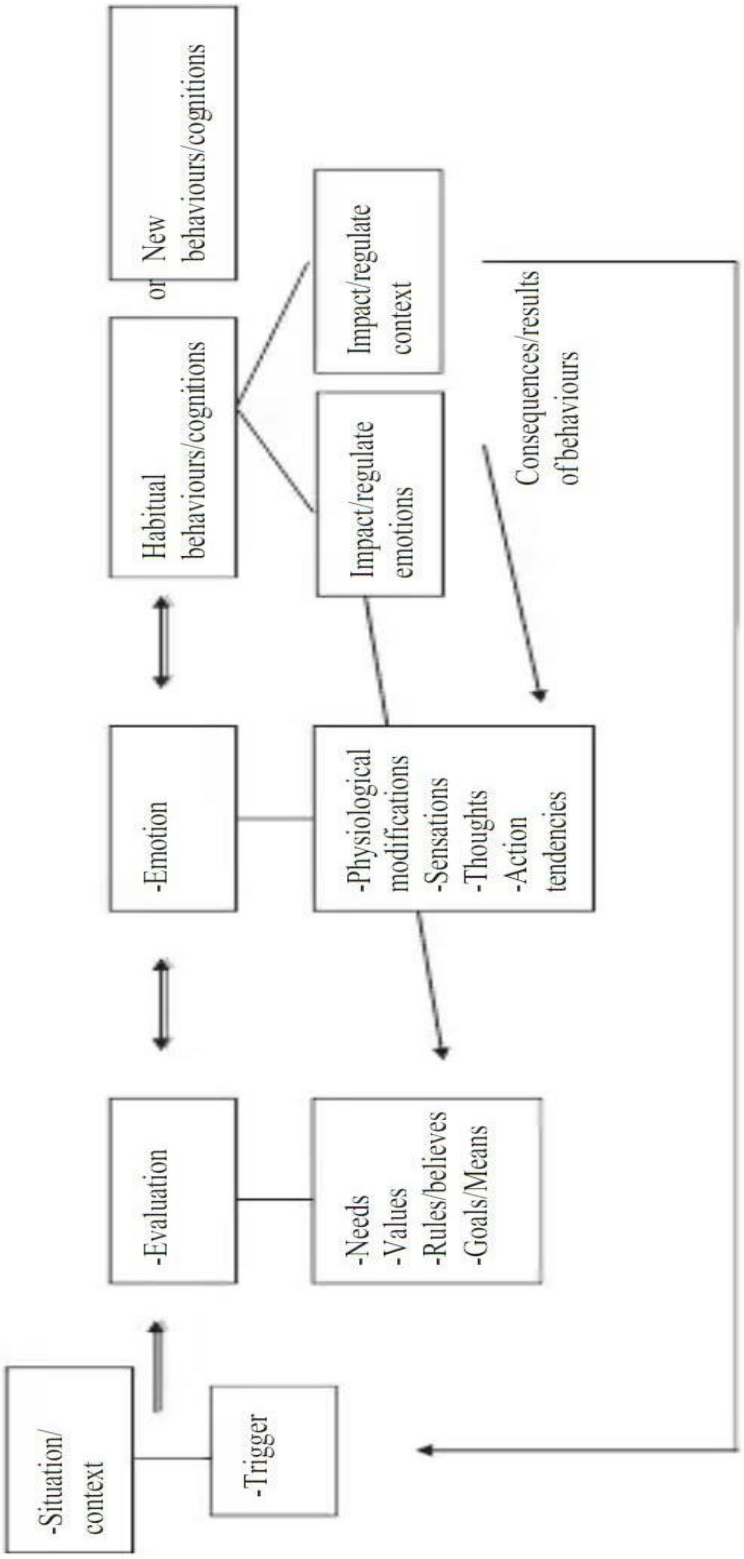

Figure 18: Pragmatic Process Model of an Emotional Episode

While on the subject of psychology we defined CBT and some of its techniques (check chapter 2 on Literary Review on Emotional Intelligence Training for info about CBT).

In the end, students were told about the elements to be expected in the next session briefly. The elements are identifying emotions, using emotions, understanding emotions, and managing emotions.

Second Session:

After a quick review of the last session, practices to identify emotions started. We illustrated to the students what are the signs that accompany each emotional state. The signs could be physiological symptoms, facial expressions, and action tendencies as told by Scherer (2001). The goal was to aid them to recognize their and others' emotions. In that light, we told them about the symptoms that accompany TA, be it physiological or mental ones.

We moved from theory to practice by playing a game where students were assigned different facial expressions and behaviours. Then, they have to recognize which emotion is expressed based on the facial expression and behaviours of the others. After that, we used Micro Expression Training Tool by Eckman (METT; Echman, 2006) which helped students recognize emotions through facial expressions better.

Some students were copying the emotional state of others without realizing it during the game. So we introduced the term Emotional Contagion which refers to "the process in which an observed behavioural change in one individual leads to the reflexive production of the same behaviour by other individuals in close proximity,

with the likely outcome of converging emotionally" (Barsade, 2002; Hatfield, Cacioppo, and Rapson, 1994; Parkinson and Simons, 2009).

Another activity was delivering an emotional checklist to the students (check appendix D (Mayer, Salovey & Caruso, 2004)) and having students watch a video that displays different emotions. The goal was to tick in the checklist what emotions are displayed in the video. The video was made by Breeze Woodson channel (2016) entitled "30 EMOTIONS | Breeze Woodson" found on youtube with the URL https://www.youtube.com/watch?v=y2YUMPJATmg. After that, they were told a story that tells about the importance of self-awareness called "The Story of the Elephant Nelson"(check appendix F).

Session three:

After reviewing the last session, and checking students' abilities for identifying emotions, the theme for this session was using those emotions. We introduced the tools and techniques to be used such as role-play on the expression of emotions, active listening, creative visualization, self-help relaxation, and positive self-talk.

We asked students to describe some critical situations in their education when their emotions have been helpful/functional (i.e., optimizing) or dysfunctional (i.e., debilitative) for their educational performance. We provided them with the main notions related to the emotion-performance relationship. During that, we explained how emotion can influence performance. For instance, if it has an effect on the cognitive functions, behaviours, physical level, etc.

After that, participants were invited to express in an efficient manner their emotions using role-play while the participants who are hearing them train on active listening. Then they were trained to get in the right mood and encourage themselves through positive self-talk, self-help relaxation, and visualizing peaceful images such as peaceful day where they are lying down on a hill in the spring while the sky is deep blue and the clouds are soft and high above.

To lower their TA and raise their EI we used the following CBT techniques:

- Identifying specific issues or problems in one's daily life.
- Becoming aware of the unproductive thought patterns and how they can negatively impact someone's life.
- Identifying and reshaping negative thinking in a way that changes how someone feels.
- Learning new positive behaviours and practicing them.

We finished the session with deep breathing and muscle relaxation exercises to lower stress. Then giving them homework which is journaling and recording their thoughts as a way to keep track of their thinking process and the new thoughts that emerge from the new behaviours that are practiced during the training.

Session Four:

The fourth session started by reviewing their understanding of the journal-keeping technique and how did they find that experience. Then, we proceeded to introduce the session theme which is a deeper understanding of emotions. We followed Rollo May's previously mentioned model of anxiety to better their understanding of the underlying causes of it. Then they were asked to reflect on their

past experiences to get why they suffered from such negative feelings and whether they had normal anxiety or neurotic.

They were shown how their perspective of themselves and their beliefs can subject them to unnecessary hardship. For example, the top of the class who would think of himself as useless if he does not achieve the top mark then stresses over that. They were told a story entitled “The Woman in the Airport” (check appendix G) to show them that sometimes one lacks perspective which may cloud his judgment.

Session Five:

The theme for this session was managing emotions. They were introduced to some coping strategies and breathing techniques. Then, the training went specifically on coping with TA through revising some things to do before and after the exam and establishing realistic fears, and banishing unnecessary ones. It went as follows:

Realistic fears such as: not being ready for the test can be solved through working on time management or one’s perfectionism. Failing exams and repeating the year can be worked through talking to the dean or trusted teacher to establish realistic goals and understand one’s options/chances.

Unnecessary fears such as family, classmates, or the professor thinking that the individual is stupid. Working around that would be through realizing that intelligence is not the primary factor to succeed but there are other helping factors like hard work and good management of one’s time, good studying techniques, and preparedness. Also, when it comes to doubting one’s smartness, one should realize that his doubt is perfectly normal and almost all students can undergo such doubt.

After that, we provided them with a brief description of how emotions can be regulated through "The individual zones of optimal functioning", also known as IZOF (Hanin, 2000b). The description was based on Gross's process model of emotion regulating (Gross, 1998) where he proposes five strategies: selecting the situation, modifying the situation, deploying attention, changing cognition, and modulating emotional responses.

We moved on to discuss new social psychology findings about emotions management such as Emotion Regulation of Others and the Self model for Niven et al (2011). We then ended the session by giving them homework of writing a small paper on how to manage others' emotions.

Session six:

In the last session, we summed up what we have seen so far. Students were encouraged to express their thoughts about the training, what they have learnt from it and what can they apply to improve the managing of their emotions. We discussed the importance of emotions and the power of positive emotions. Then, we tackled some of the difficulties that they had and answered some questions.

4. The Results of the study:

The results are going to be displayed in form of tables, charts, and analyses of those data. We made comments about the relevant results but we did not analyse every piece of information that the results provide unless it serves us in answering our research questions:

Pre-test Results:

We had the control and experimental group take the EQ-i and TAQ to measure their EI and TA respectively. And the results are shown in these tables.

Control group tables:

Table 10:

The control group's EI levels.

Participants	Raw score	EI score	EI Range
1	186	88	below average
2	138	69	very much below average
3	215	99	average
4	203	94	average
5	186	88	below average
6	201	94	average
7	190	89	below average
8	261	117	above average
9	203	94	average
10	195	91	average
11	211	98	average
12	218	100	average
13	192	90	average
14	246	111	above average
15	249	113	above average
16	230	105	average

17	290	129	above average
18	284	126	above average
19	262	118	above average
20	213	98	average
21	284	126	above average
22	204	95	average
23	159	77	below average
24	223	102	average
25	219	101	average
26	193	91	average
27	175	83	below average
28	242	110	average
29	260	117	above average
30	172	82	below average
31	176	84	below average
32	208	96	average
33	210	97	average
34	266	119	above average
35	199	93	average
36	140	69	very much below average
37	215	99	average
38	203	94	average
39	187	88	below average

40	274	123	above average
41	177	84	below average
42	239	109	average
43	199	93	average
44	239	109	average
45	301	133	very much above average
46	248	112	above average
47	231	106	average
48	188	89	below average
Mean	217	100	

The control group EI mean score is 217 for the pre-test. It indicates average EI.

Table 11:

The control group TA levels

Participants	TA score	TA range
1	22	High anxiety
2	30	High anxiety
3	18	Moderate anxiety
4	26	High anxiety
5	22	High anxiety
6	16	Moderate anxiety

7	18	Moderate anxiety
8	29	High anxiety
9	21	High anxiety
10	23	High anxiety
11	15	Moderate anxiety
12	27	High anxiety
13	23	High anxiety
14	20	Moderate anxiety
15	19	Moderate anxiety
16	8	Low anxiety
17	16	Moderate anxiety
18	22	High anxiety
19	21	High anxiety
20	28	High anxiety
21	6	Low anxiety
22	41	High anxiety
23	31	High anxiety
24	21	High anxiety
25	34	High anxiety
26	12	Low anxiety
27	38	High anxiety
28	22	High anxiety
29	32	High anxiety
30	10	Low anxiety

31	34	High anxiety
32	21	High anxiety
33	24	High anxiety
34	16	Moderate anxiety
35	25	High anxiety
36	13	Moderate anxiety
37	30	High anxiety
38	14	Moderate anxiety
39	16	Moderate anxiety
40	26	High anxiety
41	27	High anxiety
42	29	High anxiety
43	30	High anxiety
44	17	Moderate anxiety
45	19	Moderate anxiety
46	30	High anxiety
47	29	High anxiety
48	17	Moderate anxiety
Mean	22	

The mean for TA is 22 which represent high anxiety for the pre-test control group.

The results shown in tables and are treated with SPSS to display their descriptive statistics, show them in clearer manner for analysis, and summarize them in graphs that we can discuss.

EI results:

Table 12:

Descriptive statistics of the control group levels of EI' raw score in the pre-test

Statistics	
Raw score	
N Valid	48
Missing	0
Mean	216,75
Std. Deviation	38,086
Minimum	138
Maximum	301

The average is 216.75 which indicates average level of EI. However, the minimum and maximum have a big disparity, the minimum being 138 and maximum 301.

Table 13:

Control group EI range in the pre-test

		Count	Column N %
EI range	above average	11	22,9%
	average	24	50,0%

below average	10	20,8%
very much above average	1	2,1%
very much below average	2	4,2%

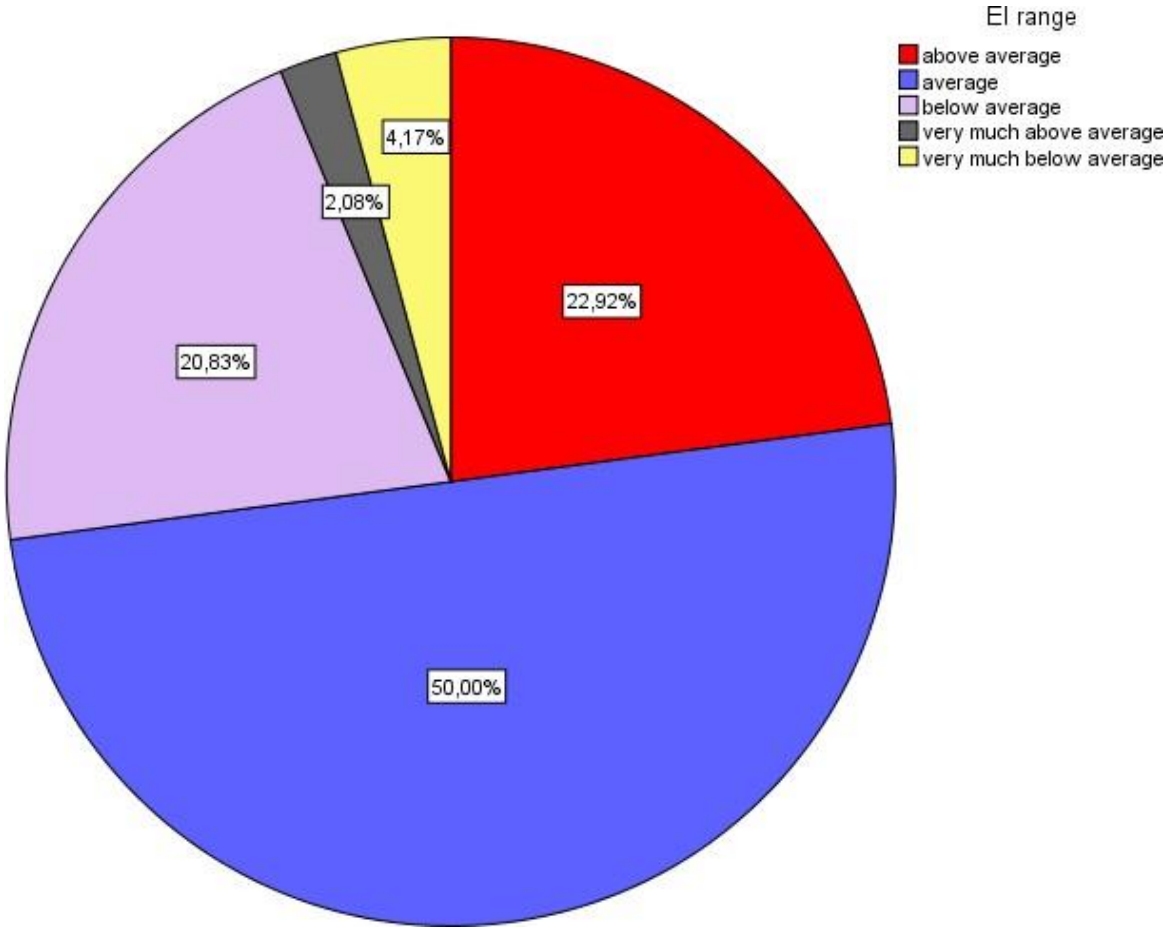

Figure 19: Pie chart of the EI range of the control group during the pre-test

Half of the participants displayed average levels of EI, specifically 24 of them. Almost the same percent have either below or above average, with 22.9% (11 student) above average and 20.8% (10 students) below average. Only one participant (2.1%)

had very much above average score, and 2 participants (4.2%) achieved very much below average score.

TA results:

Table 14:

Descriptive statistics of the control group levels of TA during the pre-test

Statistics	
TA	
N Valid	48
Missing	0
Mean	22,6667
Std. Deviation	7,63902
Minimum	6,00
Maximum	41,00

The mean is 22.66 which indicate high levels of anxiety. The disparity between the minimum score and the maximum is apparent here as well. The minimum is 6 and maximum is 41.

Table 15:

Control group TA range in the pre-test

		Count	Column N %
TA range	High anxiety	30	62,5%
	Low anxiety	4	8,3%

	Moderate anxiety	14	29,2%

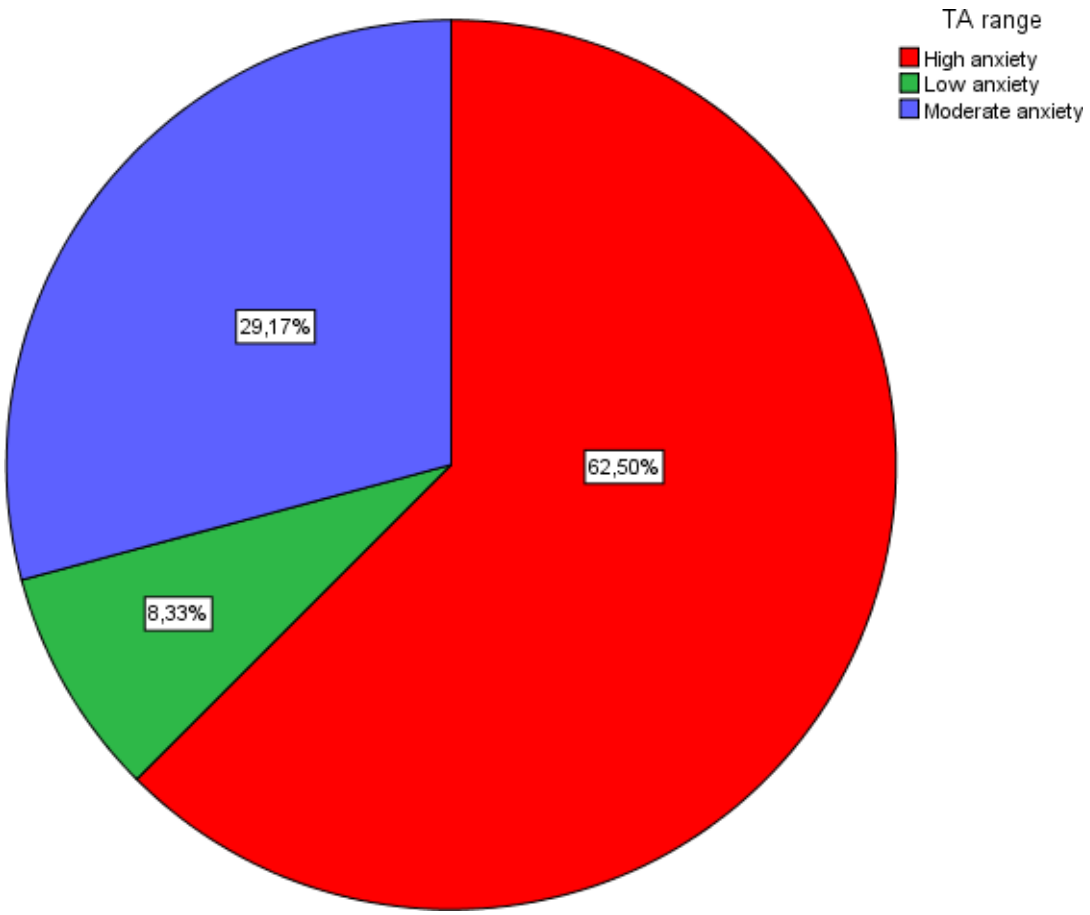

Figure 20: Pie chart of the TA range of the control group during the pre-test

The majority of the participants had high TA (30 participants, 62.5%). 14 of them which is 29.2% of the population had moderate anxiety levels and only 4 of them had low levels of TA.

Experimental Group Tables

Table 16:

The experimental group levels of EI

Participants	Raw score	EI score	EI Range

1	197	91	average
2	201	93	average
3	230	106	average
4	238	109	average
5	217	100	average
6	234	107	average
7	214	99	average
8	199	92	average
9	224	103	average
10	217	100	average
11	300	136	very much above average
12	187	87	below average
13	177	83	below average
14	241	110	above average
15	130	63	very much below average
16	185	86	below average
17	271	123	above average
18	262	119	above average
19	210	97	average
20	201	93	average
21	234	107	average
22	217	100	average

23	189	88	below average
24	175	82	below average
25	194	90	average
26	294	133	very much above average
27	214	99	average
28	200	93	average
29	189	88	below average
30	180	84	below average
31	205	95	average
32	246	112	above average
33	204	94	average
34	267	121	above average
35	234	107	average
36	248	113	above average
37	276	125	above average
38	223	103	average
39	226	104	average
40	158	75	below average
41	203	94	average
42	244	112	above average
43	179	84	below average
Mean	219	101	

The mean in this pre-test EI scores is 219 which indicates average EI.

Table 17:

The experimental group levels of TA

Participants	TA score	TA range
1	16	Moderate anxiety
2	18	Moderate anxiety
3	24	High anxiety
4	24	High anxiety
5	21	High anxiety
6	6	Low anxiety
7	10	Low anxiety
8	21	High anxiety
9	11	Low anxiety
10	29	High anxiety
11	31	High anxiety
12	34	High anxiety
13	22	High anxiety
14	9	Low anxiety
15	10	Low anxiety
16	35	High anxiety
17	31	High anxiety
18	20	Moderate anxiety
19	21	High anxiety

20	17	Moderate anxiety
21	14	Moderate anxiety
22	8	Low anxiety
23	12	Low anxiety
24	11	Low anxiety
25	24	High anxiety
26	30	High anxiety
27	29	High anxiety
28	24	High anxiety
29	27	High anxiety
30	33	High anxiety
31	12	Low anxiety
32	22	High anxiety
33	30	High anxiety
34	12	Low anxiety
35	14	Moderate anxiety
36	23	High anxiety
37	27	High anxiety
38	12	Low anxiety
39	17	Moderate anxiety
40	36	High anxiety
41	24	High anxiety
42	26	High anxiety
43	21	High anxiety

Mean	21

The experimental group pre-test score for TA shows 21 as a mean score for TA.

The descriptive statistics for the previous tables:

EI results:

Table 18:

Descriptive statistics of the experimental group levels of EI' raw score in the pre-test

Statistics	
Raw score	
N Valid	43
Missing	0
Mean	217,07
Std. Deviation	35,132
Minimum	130
Maximum	300

Similarly to the control group the gap between the min and max is large. The minimum is 130 and the maximum is 300.

Table 19:

Experimental group EI range in the pre-test

		Count	Column N %
EI range	above average	8	18,6%
	average	23	53,5%
	below average	9	20,9%
	very much above average	2	4,7%
	very much below average	1	2,3%

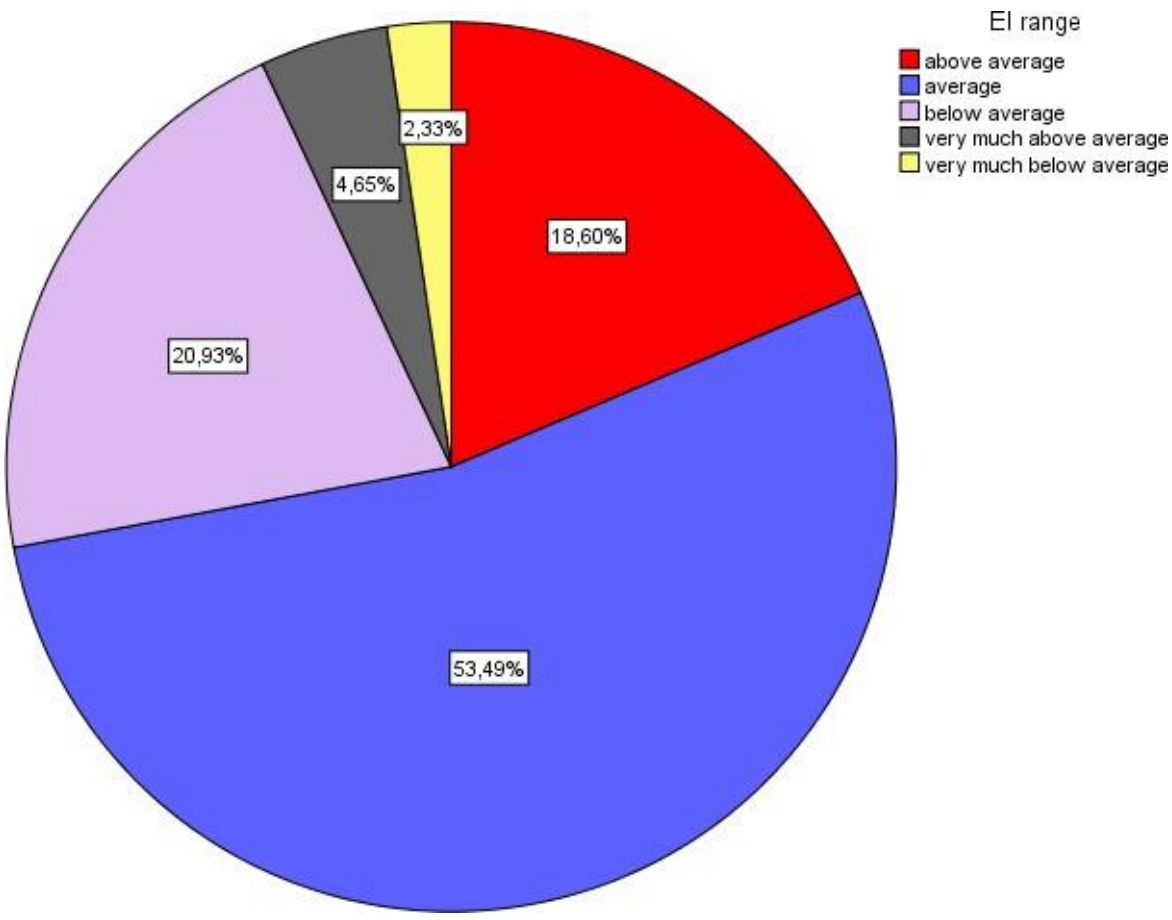

Figure 21: Pie chart of the EI range of the experimental group during the pre-test

Similarly to the control group, the majority of the participants in the experimental group had average levels of EI with (23 participants, 53.49%). 8 of them above average and 9 below average. 2 got very much above average score, and only 1 had very much below average.

TA results:

Table 20:

Descriptive statistics of the experimental group levels of TA during the pre-test

Statistics	
TA	
N Valid	43
Missing	0
Mean	20,88
Std. Deviation	8,224
Minimum	6
Maximum	36

The minimum is 6 while the maximum is 36. Big gap between the TA scores as well.

Table 21:

Experimental group TA range in the pre-test

		Count	Column N %
TA range	High anxiety	25	58,1%
	Low anxiety	11	25,6%

Moderate anxiety	7	16,3%

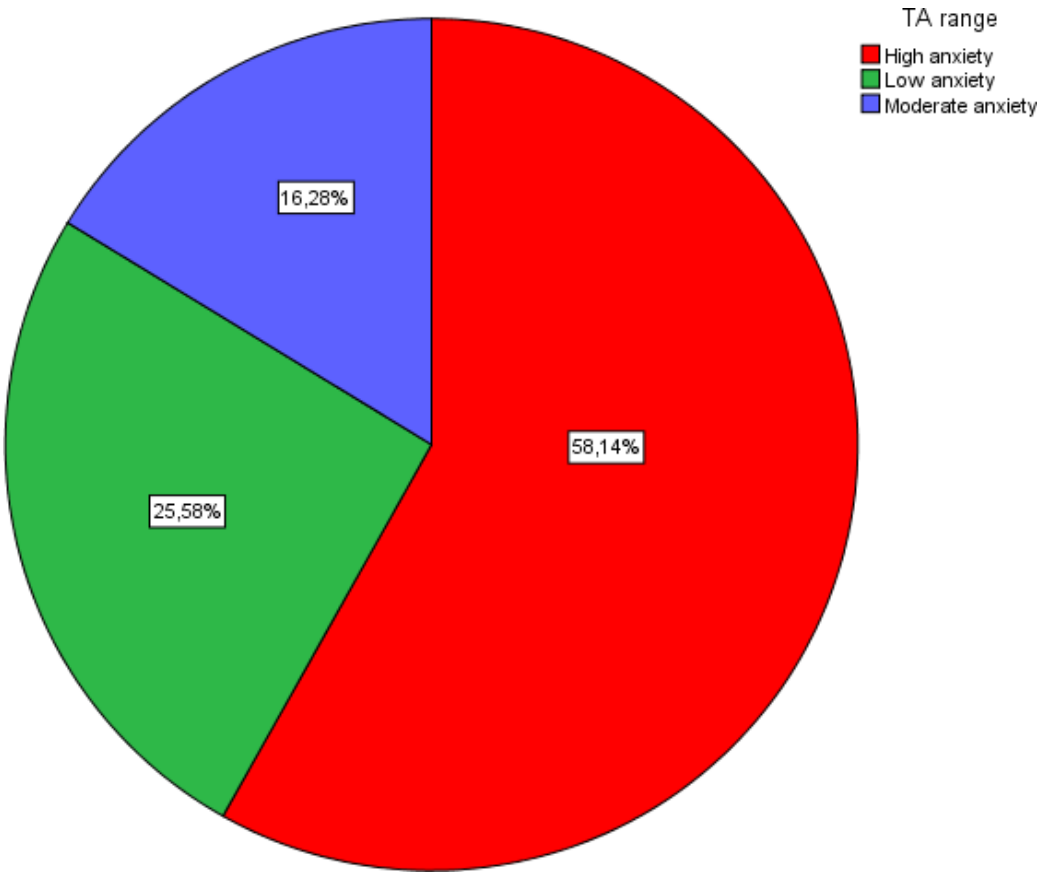

Figure 22: Pie chart of the TA range of the experimental group during the pre-test

Total number of 25 participants which is 58.14% of the experimental group had high TA levels. 11 of them which represented 25.58% had low levels of anxiety. Lastly, 16.28% of them which is 7 participants had moderate levels of anxiety.

Pre-test 2 Results:

The following table show the results for the pre-test 2 results:

Table 22:

Pre-test 2 control group EI scores

Participants	Raw score	EI score	EI Range
1	190	87	below average
2	175	80	below average
3	216	99	average
4	200	91	average
5	185	85	below average
6	175	80	below average
7	198	90	average
8	265	121	above average
9	190	87	below average
10	190	87	below average
11	201	92	average
12	225	103	average
13	273	125	above average
14	235	107	average
15	255	116	above average
16	193	88	below average
17	290	132	very much above average
18	197	90	below average
19	264	120	above average
20	216	99	average
21	240	110	average

22	203	93	average
23	255	116	above average
24	227	104	average
25	221	101	average
26	240	110	average
27	177	81	below average
28	232	106	average
29	260	119	above average
30	178	81	below average
31	180	82	below average
32	208	95	average
33	210	96	average
34	260	119	above average
35	190	87	below average
36	219	100	average
37	211	96	average
38	209	95	average
39	187	85	below average
40	261	119	above average
41	188	86	below average
42	245	112	above average
43	205	94	average
44	228	104	average
45	310	141	very much above

			average
46	260	119	above average
47	225	103	average
48	179	82	below average
Mean	219	100	

We notice that the mean in the control group Pre-test 2 for EI scores is similar to the mean of the EI pre-test scores of the control group. The pre-test mean being 217 and this mean is 219 and both carry the same significance which is average EI score. As for the TA scores, we find its results in the next table:

Table 23:

Pre-test 2 control group TA scores

Participants	**TA score**	**TA range**
1	21	High anxiety
2	29	High anxiety
3	16	Moderate anxiety
4	27	High anxiety
5	23	High anxiety
6	14	Moderate anxiety
7	13	Moderate anxiety
8	24	High anxiety
9	24	High anxiety
10	26	High anxiety

11	17	Moderate anxiety
12	29	High anxiety
13	22	High anxiety
14	20	Moderate anxiety
15	18	Moderate anxiety
16	9	Low anxiety
17	14	Moderate anxiety
18	23	High anxiety
19	20	Moderate anxiety
20	29	High anxiety
21	7	Low anxiety
22	39	High anxiety
23	32	High anxiety
24	20	Moderate anxiety
25	31	High anxiety
26	11	Low anxiety
27	35	High anxiety
28	21	High anxiety
29	32	High anxiety
30	12	Low anxiety
31	34	High anxiety
32	22	High anxiety
33	15	Moderate anxiety
34	17	Moderate anxiety

35	21	High anxiety
36	16	Moderate anxiety
37	33	High anxiety
38	17	Moderate anxiety
39	14	Moderate anxiety
40	25	High anxiety
41	28	High anxiety
42	27	High anxiety
43	31	High anxiety
44	18	Moderate anxiety
45	13	Moderate anxiety
46	31	High anxiety
47	22	High anxiety
48	19	Moderate anxiety
Mean	22	

The mean of the TA scores remained the same in the control group, being the score of 22 which indicates high anxiety.

As for the experimental group, we find their EI scores in the next table:

Table 24:

Pre-test 2 experimental group EI scores

Participants	**Raw score**	**EI score**	**EI Range**

1	197	90	below average
2	201	89	below average
3	230	106	average
4	238	109	average
5	217	100	average
6	234	106	average
7	214	97	average
8	199	86	below average
9	224	102	average
10	217	95	average
11	300	141	very much above average
12	187	85	below average
13	177	75	below average
14	241	106	average
15	213	98	average
16	185	91	average
17	271	129	above average
18	262	104	average
19	210	111	above average
20	201	95	average
21	234	105	average

22	217	98	average
23	189	96	average
24	175	74	below average
25	194	82	below average
26	294	139	very much above average
27	214	106	average
28	200	87	below average
29	189	92	average
30	180	81	below average
31	205	100	average
32	246	105	average
33	204	96	average
34	267	127	above average
35	234	100	average
36	248	115	above average
37	276	127	above average
38	223	101	average
39	226	109	average
40	244	110	average
41	203	94	average
42	194	84	below average
43	179	82	below average
Mean	222	100	

The mean of the EI scores for the experimental group remained quite similar to the pre-test score, the pre-test being 219 and pre-test 2 being 222. Since therewas no treatment, there were no significant changes that we can comment on. The next table shows the TA scores:

Table 25:

Pre-test 2 experimental group TA scores

Participants	TA score	TA range
1	14	Moderate anxiety
2	17	Moderate anxiety
3	24	High anxiety
4	22	High anxiety
5	19	Moderate anxiety
6	5	Low anxiety
7	8	Low anxiety
8	19	Moderate anxiety
9	10	Low anxiety
10	27	High anxiety
11	30	High anxiety
12	35	High anxiety
13	23	High anxiety
14	10	Low anxiety
15	11	Low anxiety

16	32	High anxiety
17	29	High anxiety
18	18	Moderate anxiety
19	19	Moderate anxiety
20	20	Moderate anxiety
21	16	Moderate anxiety
22	9	Low anxiety
23	10	Low anxiety
24	12	Low anxiety
25	23	High anxiety
26	28	High anxiety
27	29	High anxiety
28	25	High anxiety
29	24	High anxiety
30	31	High anxiety
31	10	Low anxiety
32	23	High anxiety
33	28	High anxiety
34	11	Low anxiety
35	13	Moderate anxiety
36	24	High anxiety
37	28	High anxiety
38	13	Moderate anxiety
39	18	Moderate anxiety

40	35	High anxiety
41	21	High anxiety
42	23	High anxiety
43	19	Moderate anxiety
Mean	20	

The same case of EI, TA scores haven't changed significantly. The pre-test mean for TA scores were 21, and for the pre-test 2 it is 20. Both of these scores indicate high levels of anxiety.

We did not run descriptive statistics on Pre-test 2 due the scores being somehow similar. However, we draw conclusions from this test to further validate our measures and eliminate some validity issues.

Post test results:

The post test was conducted after the training, and the results are as follows:

Table 26:

Post test control group EI scores

Participants	Raw score	EI score	EI Range
1	184	83	below average
2	159	72	below average
3	217	98	average
4	201	91	average

5	192	87	below average
6	203	92	average
7	210	95	average
8	254	115	above average
9	212	96	average
10	199	90	below average
11	221	100	average
12	214	97	average
13	232	105	average
14	243	110	average
15	254	115	above average
16	234	106	average
17	307	139	very much above average
18	274	124	above average
19	263	119	above average
20	236	107	average
21	241	109	average
22	190	86	below average
23	214	97	average
24	241	109	average
25	181	82	below average
26	245	111	above average
27	197	89	below average

28	232	105	average
29	272	123	above average
30	164	74	below average
31	186	84	below average
32	210	95	average
33	234	106	average
34	256	116	above average
35	179	81	below average
36	199	90	below average
37	221	100	average
38	305	138	very much above average
39	203	92	average
40	230	104	average
41	177	80	below average
42	250	113	above average
43	225	102	average
44	232	105	average
45	190	86	below average
Mean	221	100	

For the control group EI scores, there was no big difference between the EI mean of Post test and the two previously done tests. The pre-test was 217, thepre-test 2 had 219 for the mean, and post test had 221. Even though the

mean is a little higher than the initial one, it could be explained with students getting used to the test or other extraneous variable. In all cases the change is insignificant and can be brushed off. As for the TA scores, we can find them in the next table:

Table 27:

Post-test control group TA scores

Participants	TA score	TA range
1	20	Moderate anxiety
2	30	High anxiety
3	17	Moderate anxiety
4	25	High anxiety
5	22	High anxiety
6	14	Moderate anxiety
7	16	Moderate anxiety
8	22	High anxiety
9	23	High anxiety
10	21	High anxiety
11	18	Moderate anxiety
12	28	High anxiety
13	20	Moderate anxiety
14	17	Moderate anxiety
15	19	Moderate anxiety
16	10	Low anxiety
17	12	Low anxiety

18	20	Moderate anxiety
19	19	Moderate anxiety
20	22	High anxiety
21	6	Low anxiety
22	29	High anxiety
23	33	High anxiety
24	14	Moderate anxiety
25	25	High anxiety
26	17	Moderate anxiety
27	28	High anxiety
28	24	High anxiety
29	21	High anxiety
30	13	Moderate anxiety
31	29	High anxiety
32	24	High anxiety
33	17	Moderate anxiety
34	22	High anxiety
35	20	Moderate anxiety
36	17	Moderate anxiety
37	25	High anxiety
38	20	Moderate anxiety
39	16	Moderate anxiety
40	23	High anxiety
41	27	High anxiety

42	26	High anxiety
43	20	Moderate anxiety
44	16	Moderate anxiety
45	12	Low anxiety
Mean	20	

The mean score of TA was not significantly different either and anxiety kept being at high level.

The next table shows the experimental group post test:

Table 28:

Post test experimental group EI scores

Participants	Raw score	EI score	EI Range
1	201	85	below average
2	208	88	below average
3	265	112	above average
4	214	91	average
5	235	100	average
6	246	104	average
7	235	100	average
8	205	87	below average
9	190	80	below average
10	274	116	above average

11	314	133	very much above average
12	190	80	below average
13	194	82	below average
14	265	112	above average
15	240	102	average
16	199	84	below average
17	276	117	above average
18	294	125	above average
19	230	97	average
20	233	99	average
21	235	100	average
22	215	91	average
23	195	82	below average
24	200	85	below average
25	211	89	below average
26	320	136	very much above average
27	260	110	above average
28	205	87	below average
29	185	78	below average
30	184	78	below average
31	220	93	average
32	259	110	average

33	230	97	average
34	284	121	above average
35	250	106	average
36	261	111	above average
37	288	122	above average
38	240	102	average
39	236	100	average
40	254	108	average
Mean	236	100	

We notice a change in the mean score of EI in the post test for the experimental group. Now the mean is 236 while the experimental group started with the mean of 219. However, we cannot judge if the change is significant until we run the t-test on the results.

The following table indicates the TA results for post test of TA scores.

Table 29:

Post test TA scores for the experimental group

Participants	**TA score**	**TA range**
1	12	Low anxiety
2	14	Moderate anxiety
3	19	Moderate anxiety
4	18	Moderate anxiety

5	14	Moderate anxiety
6	7	Low anxiety
7	7	Low anxiety
8	15	Moderate anxiety
9	11	Low anxiety
10	25	High anxiety
11	25	High anxiety
12	28	High anxiety
13	17	Moderate anxiety
14	11	Low anxiety
15	12	Low anxiety
16	30	High anxiety
17	22	High anxiety
18	14	Moderate anxiety
19	13	Moderate anxiety
20	24	High anxiety
21	11	Low anxiety
22	5	Low anxiety
23	11	Low anxiety
24	6	Low anxiety
25	11	Low anxiety
26	25	High anxiety
27	22	High anxiety
28	19	Moderate anxiety

29	26	High anxiety
30	24	High anxiety
31	10	Low anxiety
32	21	High anxiety
33	22	High anxiety
34	8	Low anxiety
35	19	Moderate anxiety
36	30	High anxiety
37	18	Moderate anxiety
38	14	Moderate anxiety
39	18	Moderate anxiety
40	32	High anxiety
Mean	17	

The anxiety dropped to the mean score of 17 which indicates moderate levels of anxiety.

We saved the analysis and descriptive statistics for the post-test due their similarities of results.

Post-test results:

The next tables will display the results of the post-test:

Table 30:

Post-test 2 control group EI scores

Participants	Raw score	EI score	EI Range
1	180	82	below average
2	161	74	below average
3	202	91	average
4	240	108	average
5	188	85	below average
6	197	89	below average
7	216	97	average
8	260	116	above average
9	222	100	average
10	205	93	average
11	226	102	average
12	241	108	average
13	223	100	average
14	240	108	average
15	256	115	above average
16	244	109	average
17	308	137	very much above average
18	264	118	above average
19	216	97	average
20	244	109	average
21	215	97	average
22	198	90	below average

23	209	94	average
24	247	111	above average
25	196	89	below average
26	242	109	average
27	189	86	below average
28	243	109	average
29	233	105	average
30	180	82	below average
31	175	80	below average
32	165	76	below average
33	301	134	very much above average
34	265	118	above average
35	184	84	below average
36	204	92	average
37	218	98	average
38	309	137	very much above average
39	206	93	average
40	213	96	average
41	180	82	below average
42	264	118	above average
43	224	101	average
44	234	105	average

45	203	92	average
Mean	221	100	

Similarly to the post test and the previous tests, the mean have notchanged much. Being 221 now while in the post test it was 222.

The next table shows the TA scores:

Table 31:

Control group TA scores for the post-test 2.

Participants	TA score	TA range
1	19	Moderate anxiety
2	18	Moderate anxiety
3	12	Low anxiety
4	29	High anxiety
5	27	High anxiety
6	12	Low anxiety
7	21	High anxiety
8	26	High anxiety
9	29	High anxiety
10	22	High anxiety
11	22	High anxiety
12	21	High anxiety
13	26	High anxiety

14	22	High anxiety
15	18	Moderate anxiety
16	8	Low anxiety
17	14	Moderate anxiety
18	23	High anxiety
19	21	High anxiety
20	27	High anxiety
21	11	Low anxiety
22	28	High anxiety
23	31	High anxiety
24	29	High anxiety
25	27	High anxiety
26	12	Low anxiety
27	22	High anxiety
28	25	High anxiety
29	19	Moderate anxiety
30	16	Moderate anxiety
31	26	High anxiety
32	31	High anxiety
33	24	High anxiety
34	18	Moderate anxiety
35	19	Moderate anxiety
36	16	Moderate anxiety
37	22	High anxiety

38	27	High anxiety
39	24	High anxiety
40	18	Moderate anxiety
41	18	Moderate anxiety
42	32	High anxiety
43	21	High anxiety
44	17	Moderate anxiety
45	11	Low anxiety
Mean	21	

The mean for TA remains unchanged for the control group in the post-test 2.

We ran descriptive statistics on the post-test 2 results for the control group andthese are the findings:

EI results:

Table 32:

Descriptive statistics for EI levels of the control group in the post-test 2

Statistics	
Raw score	
N Valid	45
Missing	0
Mean	221,89
Std. Deviation	35,333
Minimum	161

Maximum	309

Table 33:

Control group EI range in the post-test 2

		Count	Column N %
EI range	above average	6	13,3%
	average	24	53,3%
	below average	12	26,7%
	very much above average	3	6,7%
	very much below average	0	0,0%

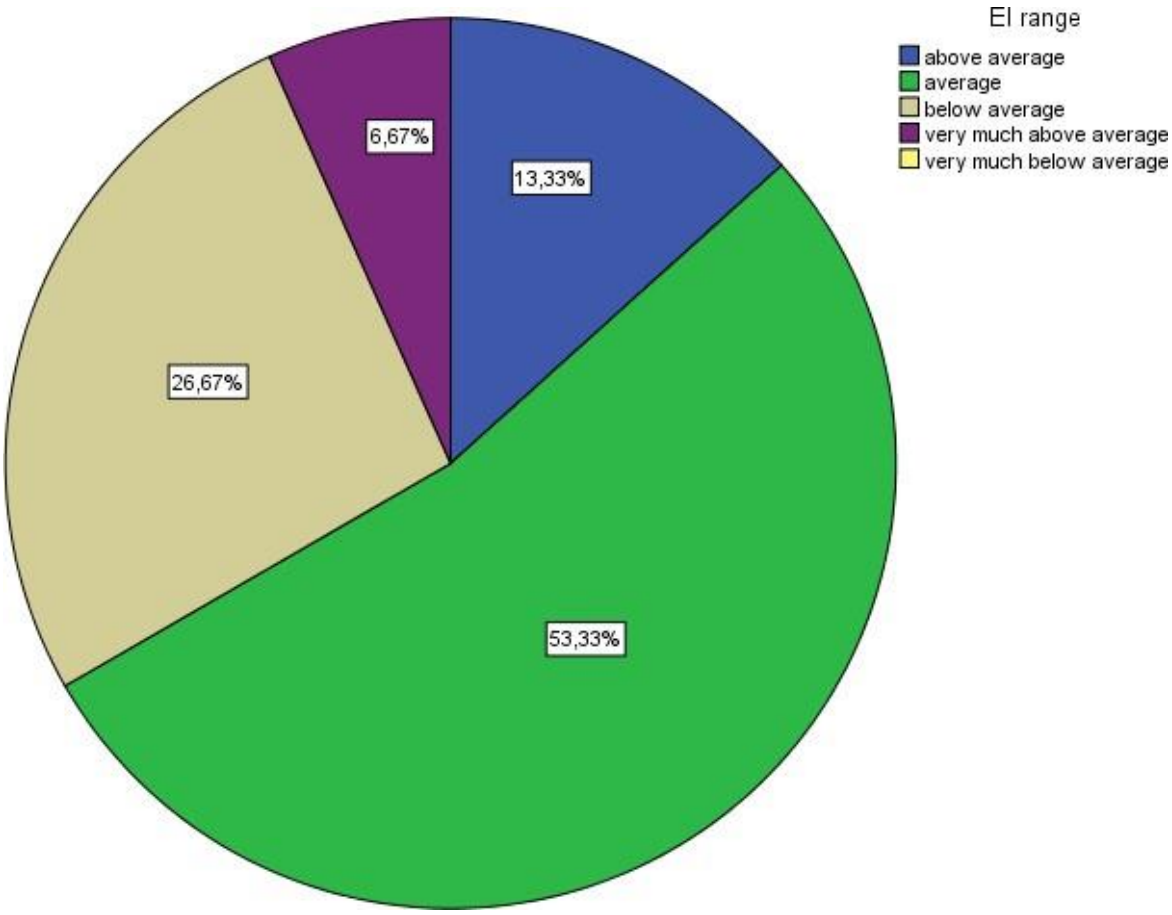

Figure 23: Pie chart for EI range of the control group in the post test 2

About half the number of the participants (53.33%) had average EI scores. 26.67% of them scored below average. 13.33% had above average. 6.67% got very much above average and none of them scored very much below average when it comes to EI.

TA results:

Table 34:

Descriptive statistics for the experimental group TA levels in the post-test 2

Statistics		
TA		
N	Valid	45

Missing	0
Mean	21,36
Std. Deviation	6,035
Minimum	8
Maximum	32

Table 35:

Control group TA levels in the post-test 2

		Count	Column N %
TA range	High anxiety	27	60,0%
	Low anxiety	6	13,3%
	Moderate anxiety	12	26,7%

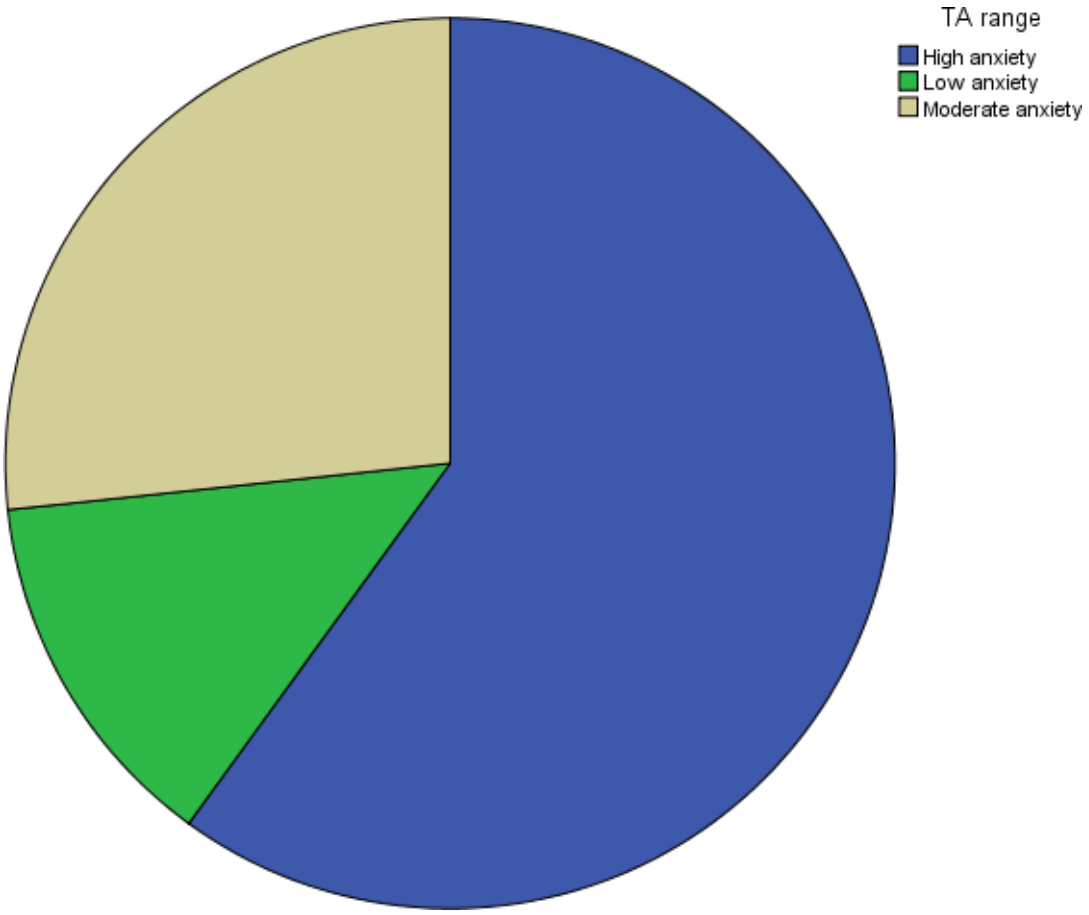

Figure 24: Pie chart for TA levels of the control group in the post-test 2.

The case remained that the majority had high anxiety scores, approximately 60% of them (27 of the participants). As for the rest, 12 of them (26.7%) got moderate anxiety levels and six (13.3%) had low anxiety levels.

As for the experimental group results for the post-test2:

Table 36:

Post test 2 experimental group EI scores

Participants	Raw score	EI score	EI Range
1	206	86	below average
2	211	88	above average

3	263	112	average
4	217	91	average
5	237	100	average
6	239	101	average
7	241	102	below average
8	204	85	below average
9	195	81	above average
10	274	117	very much above average
11	312	134	below average
12	191	79	below average
13	204	85	average
14	248	105	average
15	250	106	below average
16	202	84	above average
17	277	118	above average
18	288	123	average
19	219	92	average
20	233	98	average
21	241	102	average
22	224	94	below average
23	200	83	below average
24	206	86	average
25	217	91	very much above

			average
26	314	135	average
27	257	109	below average
28	208	87	below average
29	191	79	below average
30	204	85	average
31	235	99	average
32	241	102	average
33	235	99	above average
34	288	123	average
35	252	107	average
36	257	109	above average
37	301	129	average
38	244	103	average
39	222	93	average
40	255	108	below average
Mean	237	100	

Similar to what we have seen in the post test, the results of EI meanpersist even after some time. The result of the mean is 237.

As for the TA scores:

Table 37:

Experimental group TA scores for the post-test 2

Participants	TA score	TA range
1	11	Low anxiety
2	14	Moderate anxiety
3	18	Moderate anxiety
4	20	Moderate anxiety
5	11	Low anxiety
6	8	Low anxiety
7	6	Low anxiety
8	14	Moderate anxiety
9	11	Low anxiety
10	19	Moderate anxiety
11	18	Moderate anxiety
12	25	High anxiety
13	16	Moderate anxiety
14	12	Low anxiety
15	9	Low anxiety
16	21	High anxiety
17	25	High anxiety
18	12	Low anxiety
19	17	Moderate anxiety
20	19	Moderate anxiety
21	18	Moderate anxiety
22	6	Low anxiety
23	12	Low anxiety

24	8	Low anxiety
25	16	Moderate anxiety
26	19	Moderate anxiety
27	16	Moderate anxiety
28	22	High anxiety
29	25	High anxiety
30	27	High anxiety
31	7	Low anxiety
32	19	Moderate anxiety
33	26	High anxiety
34	9	Low anxiety
35	17	Moderate anxiety
36	23	High anxiety
37	18	Moderate anxiety
38	12	Low anxiety
39	16	Moderate anxiety
40	28	High anxiety
Mean	16	

The anxiety levels have dropped to make the mean of anxiety for the experimental group to 16 which indicate moderate levels of anxiety.

We display now the descriptive statistics for the experimental group post-test 2 tables.

EI results:

Table 38:

Descriptive statistics for the experimental group EI raw score in the post-test 2

Statistics	
Raw score	
N Valid	40
Missing	0
Mean	237,58
Std. Deviation	33,229
Minimum	191
Maximum	314

Table 39:

Experimental group EI range in the post-test 2

		Count	Column N %
EI range	above average	6	15,0%
	average	20	50,0%
	below average	12	30,0%
	very much above average	2	5,0%
	very much below average	0	0,0%

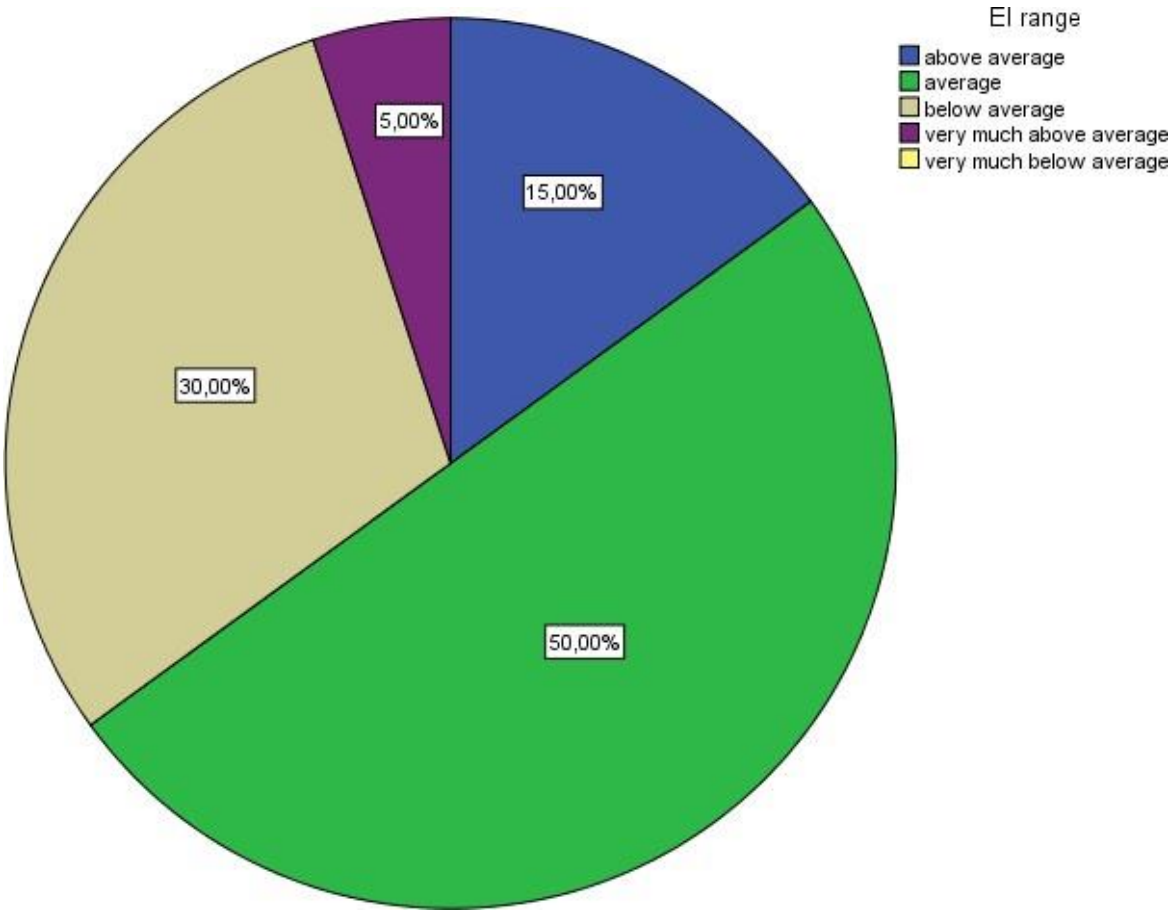

Figure 25: Pie chart of EI range for the experimental group in the post test 2

Half of the participants scored an average EI level. 30% scored below average, 15% above average while 5% scored very much above average. None of them scored very much below average.

TA results:

Table 40:

Descriptive statistics of TA levels for the experimental group in the post-test 2

Statistics

TA

N	Valid	40

Missing	0
Mean	16,25
Std. Deviation	6,075
Minimum	6
Maximum	28

Table 41:

Experimental group TA levels in the post-test 2

		Count	Column N %
TA range	High anxiety	9	22,5%
	Low anxiety	14	35,0%
	Moderate anxiety	17	42,5%

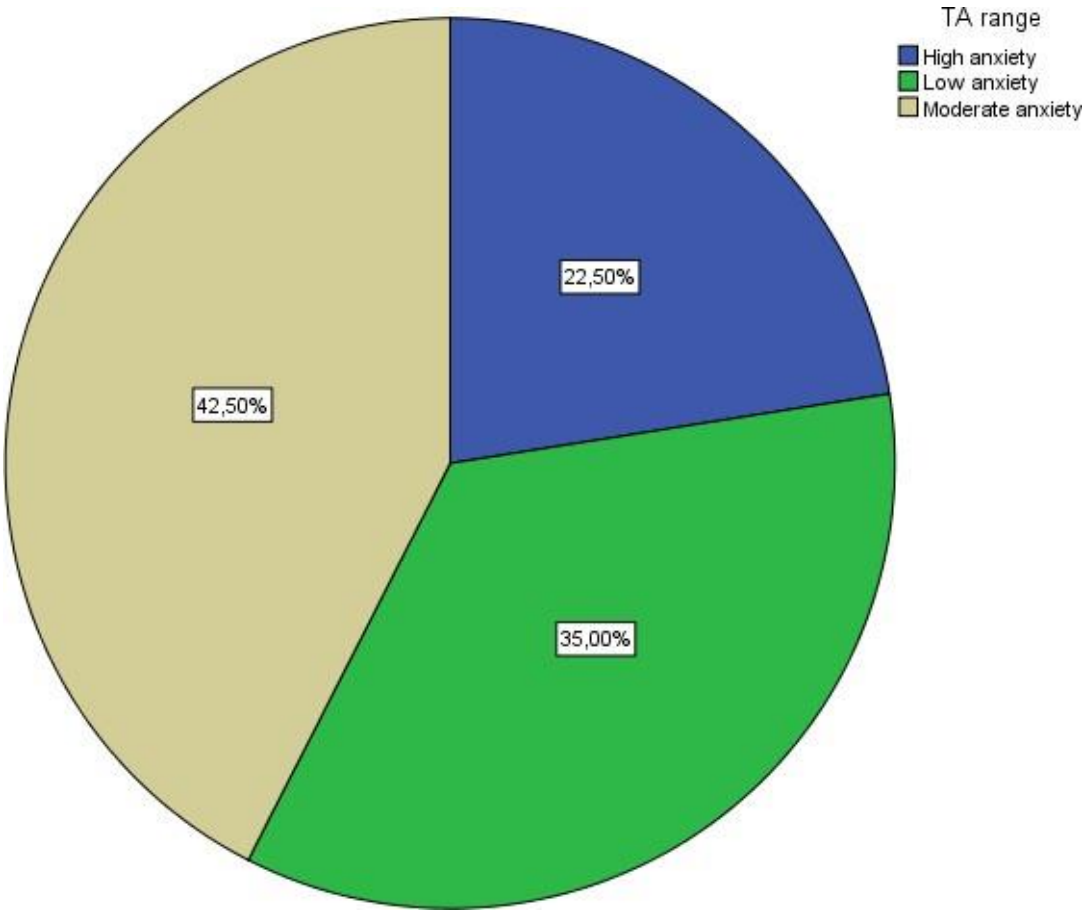

Figure 26: Pie chart for the TA levels of the experimental group in the post-test

The anxiety levels had noticeable change. 35% of the participants had low anxiety levels. 42.50% of them got moderate levels of anxiety. And 22.50% scored high in anxiety.

The interpretation and discussion of these results will be in the discussion chapter.

The paired sample T-test:

Since we are interested in finding out whether the difference our treatment made is significant or not in the experimental group. We ran a paired sample T-test for both EI and TA levels of the experimental group comparing the difference between the pre-test and the post test, and the results were as follows:

Table 42:

Paired T-Test for EI of the experimental group

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre-test Raw score - Post-test Raw score	-19,875	26,042	4,118	-28,203	-11,547	-4,827	39	,000

Table 43:

Paired test for TA of the experimental group

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre-test TA - Post-test TA	4,425	4,618	,730	2,948	5,902	6,060	39	,000

From the two tables above we find that the P-value is less than 0.001 which is less than 0.05 and therefore the difference is significant and we conclude the following:

- The participants in the experimental group post-test had significantly higher levels of EI raw score than the pre-test.
- The participants in the experimental group post-test had significantly lower TA levels than on the pre-test.

5. The Opinionnaire Results:

Upon finishing the post-test and analysing its results, further investigation on the matter has been conducted through an anonymous opinionnaire. It was made not only to add qualitative data to our research and make it more reliable but also to voice the participants' concerns about anxiety among them and their perspectives on the treatment. The opinionnaire was delivered only to ones who undergo the treatment fully which were 40 participants. Their answers to each question are shown below:

Question 1: "To what extent do you think test-taking anxiety affects your educational performance?"

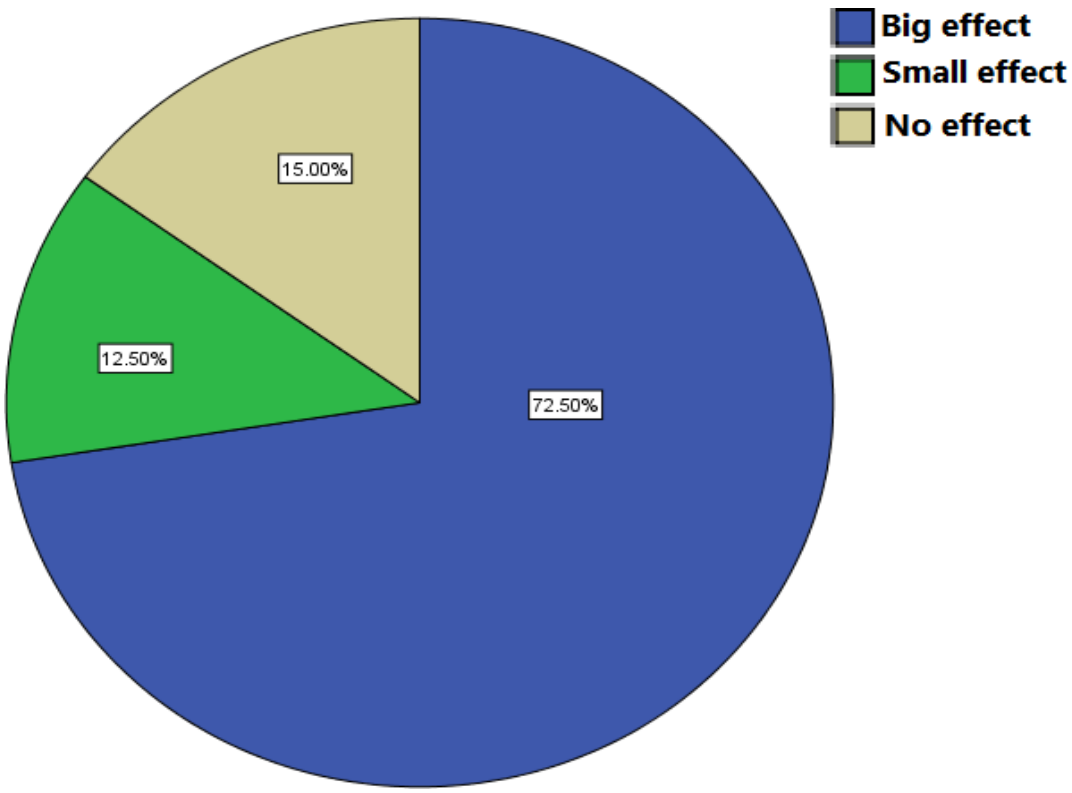

Figure 27: The effect of Test Anxiety on students' educational performance

Among the 40 participants, 29 said that Test Anxiety has a big effect on their performance, 5 said it has a small effect on it, while 6 said it had no effect on them. In addition, students said it depends on several factors such as their preparedness for the test, the importance of the test (in regards to education/career-wise), and their mental state during the test period.

Question 2: "To what extent was the Emotional Intelligence Training understandable and easy to go through?"

Out of 40 students, 19 said that it was very easy and comprehensible, 13 said they had difficulties in some parts but understood the generality of it overall, while 8 said that they found it difficult to grasp. The ones who found difficulties were asked t elaborate more, and they said that the difficulties they faced were: The cluster amount of new information they were getting was too much considering the session has one hour duration and it involved both theoretical and practical aspects of the training. Another difficulty they faced is the ambiguity of psychological terms to them which made them mix between terms that have close meaning to other psychological terms. Furthermore, some of them were not interested in receiving the training which stumbled in the way of receiving it fully.

Question 3: "Did the Emotional Intelligence Training help you in reducing your Test Taking Anxiety?"

33 out of 40 said it helped them reduce their anxiety while 7 said that it did not. The participants were asked to elaborate on how it helped them reducing it. The ones who said it helped them said: Understanding the reasons for such negative emotion and thinking about it is what helped them, while others said that since they

learnt that other people are suffering from the same emotion that they feel it made them feel less bad about it which made it easier for them to handle it.

The ones who said it did not help them much in reducing anxiety said: Due to their inability to understand the training or disinterest in the training they did not learn much from it. Some add that their anxiety was too much that they did not want to contemplate about it or deal with it.

Question 4: "Do you think Emotional Intelligence should be taught implicitly or explicitly in the classroom?"

31 out of 40 said that they would prefer if they took the training explicitly. They said they would prefer to have a module for it since it will make it easier to grasp than if it is implicit under other lessons and modules. The rest 9 out of 40 said that they prefer to learn about emotional intelligence implicitly due to these reasons: it is more psychology-related than language-related and they are not psychology majors, they do not want additional hours in the curriculum, and/or they believe learning about it implicitly is enough and no need for the whole module about it.

Question 5: "Do you think Emotional Intelligence Training would help in your daily life outside the education context?"

Most students (35 out of 40) said that they think it would help them in their life and make them reflect more on their emotions and how they affect their actions. Whereas 5 out of 40 said that it would not help them in their life since they did not take much from the training due to the previously mentioned difficulties.

The data collected from the opinionnaire will be discussed in the next chapter to provide further answers to our research questions, insights, recommendations, and limitations.

Chapter Five: Discussing the Findings, Limitations and Recommendations, and General Conclusion.

The Experiment Major Findings:

We are going to talk about the major findings that each test result provide us with before we move into general findings.

Findings of the pre-test:

Having a test anxiety score of lower than 12 signifies low anxiety levels, between 12 to 20 signifies moderate anxiety levels, whereas having more than 20 means high anxiety levels. The pre-test reveals the control group had a mean of 22 test anxiety scores while the experimental group had a mean of 21. The difference between the two means is not significant. In terms of significance, having a higher mean than 20 signifies on average students have high anxiety levels.

As for the EQ, we found that the control group had a mean of 217, whereas the experimental group had a mean of 219. The difference between the two means is not significant. Both means signify average levels of emotional intelligence.

We also draw the conclusion from the descriptive statistic tables that there is a big difference in scores among the students. That the disparity is huge for the minimum score of EI is 138 and the highest is 301 in the control group. Similar conclusion can be drawn about the experimental group.

Findings of the pre- test 2:

We took about a month before running the pre-test 2, and its results were not significantly different than the pre-test. As we have a similar result in anxiety scores for the control group which is 22, and 20 for the experimental group. Thus, this pre-test 2 helped us eliminate some of the threats to validity. The maturation threat is out of the picture since our whole experiment is done in 2 months (The pre-test was

done a month before the pre-test 2, then we proceeded with the treatment which took 5 weeks). For the testing threat, retaking the test did not show enhanced results but they remained relatively the same. For the instrumentation threat, we used the same measure by adjusting the wording or the order of the questions and adapting a similar test in order to avoid the testing threat, yet that did not affect scores. Hence, the instrumentation threat is not an issue as well.

To sum up, pre-test 2 helped in squaring up some validity issues that may affect the experiment. And its findings were relatively the same as the pre-test.

Findings of the post test:

The post test was done right after the training. It has shown that the control group results were not that different from the pre-test findings. Having 222 score in EI and 20 score in TA. This emphasizes further the reliability of the data since they are quite unchanging without an experiment.

As for the experimental group. The changes were significant both in EI and TA scores, with 236 and 17 respectively. We found a correlation between the two variables by running Pearson's correlation coefficient test. Furthermore, we also proved causation and not just correlation by relying on our experimental design and finding significant difference by running a T-test.

Findings of the post-test 2:

The post-test 2 was done after some time and its results further validate the findings of the post test. The control group's scores of EI and TA were 221 and 21 respectively, which is a barely noticeable change. While the experimental groups' EI and TA scores were 237 and 16 respectively. These findings indicate that the participants maintained the benefits of the training even after some time. Thus, we

derive from these findings that the benefits of the training can be lasting to some extent.

Findings of the opinionnaire:

The opinionnaire revealed the following findings:

- Most of the students say that anxiety has a big effect on their education.
- The emotional intelligence training wasn't easy to grasp by everyone and some of the students struggled with it.
- The majority of the students said that the EIT helped them in reducing their anxiety.
- The majority of the students prefer if EIT is done explicitly while the rest view that it is better implicitly.
- Almost all students claim that EIT is helpful even in their daily life outside the educational context.

General findings:

- Students' levels of test anxiety are alarmingly high which calls for more attention to such mental health issues.
- Emotional Intelligence training was able to significantly reduce students' anxiety levels and raise their emotional intelligence.
- EI can be taught through integration in the curriculum or explicitly without a context.

Limitations of the Study

- Circumstances may have led students to feel more anxious due to their ambiguous educational fate since they missed so many lessons that year.

- The study was done on merely 40 participants in the experimental group and 43 participants in the control group.
- The data was collected through self-reports which are not accurate one hundred percent.
- Most of the EI training and courses were delivered to younger participants, mainly in primary schools, which is due to the simple fact that teaching emotions at a younger age showed to be more effective.
- The researcher performing the training did not have such training before, but it was a humble initiative on his part as well as using simple methods that can be used by anyone without risks.

Suggestions for Further Research

- Repeating the study with a larger sample and/or a different EI program. It is better also if the program can be conducted on a population of younger participants, such as primary students.
- Investigating EI effect on a different kind of anxiety other than the test anxiety.
- The methods used in the training were various so we are not sure which ones had the most effect on reducing the anxiety, a thorough investigation of the techniques used and how they reduced anxiety would be helpful to determine which techniques are most effective.

General Conclusion

We set out on this study to investigate if Emotional Intelligence Training can be of help in reducing students' Test Anxiety. The study reveals the issue of having high test anxiety among students. This issue may hinder their performance during their educational career and is not just limited to their performance in exams. The study also aims to raise awareness about such mental problems seeing that mental issues are not spoken about much in Algeria.

The body of the literature discussed models of anxiety and how it can stem from early childhood, or due to personal beliefs and goals. It also discussed models of Emotional Intelligence and its training which can be used to reduce students' Test Anxiety.

We found that first-year university students' of Batna 2 University have average Emotional Intelligence scores and high Test Anxiety scores. The repeating of our scoring process gave practically the same results which further confirmed our findings.

After the treatment, we found that Emotional Intelligence Training significantly helped in reducing Test Anxiety scores from high to moderate levels. The students' EI scores have increased significantly as well, but the scores remained in the range of "Average" when it comes to scoring. We conclude that the training did not produce super effective results when it comes to improving EI since the change was not that big even if it is statistically significant.

Redoing the post-test after some time has shown similar results which indicate that the effects of the training are somehow lasting.

The opinionnaire revealed that students are aware that anxiety is harming their education. Furthermore, the training was not easy to comprehend fully by all of them because some of them admitted it was complex for them. However, for those who grasped some of its elements, there was positive feedback; they claim that EIT helped them with overcoming their anxiety. The opinionnaire also reveals that the majority of students would prefer to be taught EI explicitly rather than implicitly and that the EIT helped them in their daily life and not merely in the educational context.

The implications of this study encourage us to pay more attention to the mental issues that students are going through and to seek further ways in order to eliminate or at least reduce the effect of negative emotions on the learners performance and mental health.

To sum up, the model provided for the training (The four-branch model of Mayer and Salovey) proved to be significantly helpful in reducing the participants' Test Anxiety and helping them drop it from high levels to moderate ones.

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List of Appendices

Appendix A: Sarason Test Anxiety Questionnaire

Test Anxiety Scale

Name: ……

Gender: Female Male

Age:

Instruction

How much test anxiety do you have? Without over thinking the answer, circle "True" or "False". Give your first instinctive response.

1. While taking an important exam, I find myself thinking how much smarter the other students are than I am. **True False**

2. If I were to take an intelligence test, I would worry a great deal before taking it. **True False**

3. If I knew I was going to take an intelligence test, I would feel confident and relaxed. **True False**

4. While taking an important exam, I perspire a great deal. **True False**

5. During class exams, I find myself thinking of things unrelated to the actual course material. **True False**

6. I'm physically relaxed before the test. **True False**

7. When a surprise test is announced, I panic. **True False**

8. During a test, I find myself thinking of the consequences of failing. **True False**

9. After important tests, I am frequently so tense my stomach gets upset. **True False**

10. I freeze up on things like intelligence tests or final exams. **True False**

11. Getting good grades on one test doesn't seem to increase my confidence on the second. **True False**

12. I start feeling very anxious or uneasy just before getting test results. **True False**

13. I sometimes feel my heart beating very fast during important exams. **True False**

14. After taking a test, I always feel I could have done better than I actually did. **True False**

15. I usually get depressed after a test. **True False**

16. I have an uneasy, upset feeling before taking a final examination. **True False**

17. When taking a test, my emotional feelings do not interfere with my performance. **True False**

18. During a course exam, I frequently get so nervous, I forget facts I really know. **True False**

19. I seem to defeat myself while working on important tests. **True False**

20. The harder I work at taking a test or studying for one, the more confused I get. **True False**

21. As soon as the exam is over, I try to stop worrying about it but I just can't. **True False**

22. During exams, I sometimes wonder if I'll ever get through school. **True False**

23. I would rather write a term paper than take an exam for my grade in a course. **True False**

24. I wish exams did not bother me so much. **True False**

25. I think I could do much better on tests if I could take them alone and not feel pressured

by time limits. **True False**

26. Thinking about the grade I may get in a course interferes with my studying and

performance on tests. **True False**

27. If exams could be done away with, I think I would actually learn more. **True False**

28. On exams I take the attitude, "If I do not know it now, there is no point in worrying about it." **True False**

29. I really don't see why some people get so upset about tests. **True False**

30. Thoughts of doing poorly interfere with my performance on tests. **True False**

31. I don't study any harder for final exams than for the rest of my coursework. **True False**

32. Even when I'm well prepared for a test, I feel very anxious about it. **True False**

33. I don't enjoy eating before an important test. **True False**

34. Before an important exam, I find my hands or arms trembling. **True False**

35. I seldom feel the need for "cramming" before an exam. **True False**

36. The school should recognize that some students are more nervous than others about tests and that this affects their performance. **True False**

37. It seems to me that exam periods should not be made such intense situations. **True False**

38. I started feeling very uneasy just before getting back a test paper. **True False**

39. I dread courses where the instructor has the habit of giving "pop" quizzes. **True False**

APPENDIX B: The Emotional Quotient Inventory (EQ-i)

Part 1: Back ground information

Name: ……

Gender: Female ☐ Male ☐

Age: ☐

Instructions*:* Put (X) and fill in the blank according to what is most applicable to you

Part 2: The Emotional Quotient Inventory (EQ-i)

Statements	**Strongly agree**	**Agree**	**Undecided**	**Disagree**	**Strongly Disagree**
1. My strategy to deal with difficulties is going step by step.					
2. It is easy for me to show my emotions.					
3. I cannot stand too much stress.					
4. I can easily stop daydreaming and connect to reality.					
5. Although there are some problems time to time, I usually believe that everything is going to be fine.					
6. It is hard for me to encounter unpleasant events.					
7. I can tell someone that I do not agree with him/her.					
8. When I feel blue/sad, I know what causes these feelings.					

9. Others think that I am **unpretentious**.					
10. Most of the time I am sure of myself.					
11. I am a **peevish** person.					
12. I am not aware of the things around me.					
13. I cannot easily share my **inner feelings** with others.					
14. When I consider my good and bad habits, I feel happy.					
15. I try to make my life meaningful.					
16. I cannot express my love.					
17. I do not exactly know the things I am good at.					
18. I can quit my old habits.					
19. I try to learn the things I like as well as I can.					
20. I can tell other people when I get angry with them.					
21. I am not sure what I would like to do in life.					
22. I prefer to work at a place where I am often reminded of my responsibilities.					
23. When I am solving a problem, I search every possibility, and then decide on the best one.					
24. I am a follower rather than a leader.					
Statements	**Strongly Agree**	**Agree**	**Undecided**	**Disagree**	**Strongly Disagree**
25. Although people do not directly express their					

feelings, I can understand them very well.					
26. I am happy with my physical appearance.					
27. I can easily share my ideas with people.					
28. I like doing things that **appeal** me.					
29. I am an impatient person.					
30. I take care of not hurting other people's feelings.					
31. Even though the things get complicated, I have motivation to keep on.					
32. I have good relations with others.					
33. When I encounter an unpleasant situation, I would like to collect information as much as I can.					
34. I enjoy helping people.					
35. I have achieved just a few things in last couple of years.					
36. It is hard to control my **range**.					
37. I do not enjoy living.					
38. It is hard to define my emotions.					
39. I cannot protect my rights.					
40. I am a very joyful person.					
41. My acts without thinking cause problems.					
42. People think that I am a social person.					
43. It is crucial to be a citizen who obeys the rules.					
44. I find it difficult to accept myself as I am.					
45. Even if I had to be somewhere else I would help					

crying child to find his parents.					
46. My friends can tell me their special things.					
47. I cannot decide on my own.					
48. I respect the other people.					
49. I care what happens to other people.					
50. It is difficult for me to change my opinion about some things.					
51. I am generally **stuck** when I try to find different solutions to problems.					
52. Without **fantasies** and dreaming I try to see everything as it is.					
53. I know what I feel.					
54. It is fun to be with me.					
55. I am **fond** of the type of personality I have.					
56. I **gratify** myself to my dreams and fantasies.					
57. My close relationships are very important for me and my friends.					
58. It is difficult for me to start new things.					
59. If I had to I would break the law.					
60. I am worried.					
61. It is easy for me to adapt the new conditions.					
Statements	**Strongly Agree**	**Agree**	**Undecided**	**Disagree**	**Strongly Disagree**
62. I can easily make friends.					

63. I know how to cope with **annoying** problems.					
64. When I work with the others, I trust their ideas more than mine.					
65. I feel bad too often.					
66. I don't stop easily when I start to speak.					
67. I do not get on well with people around.					
68. I know how to keep calm under difficult circumstances.					
69. I appreciate myself.					
70. I am told to lower my voice while having an argument.					
71. I cannot change my style easily.					
72. I am happy with myself.					
73. I need people more than people need me.					
74. I love weekends and holidays.					
75. I can cope with stress without getting annoyed.					
76. I believe that I will **overcome** very hard situations.					
77. I do not notice suffering people.					
78. I usually hope for the best.					
79. It is hard for other people to trust me.					
80. I know that it is difficult to control my **anxiety**.					
81. I easily notice the emotional needs of others.					

82. I love **exaggerating.**					
83. I find it hard to smile.					
84. I face my negative feelings and look through them at the proper time.					
85. I usually feel that I will fail before I start doing new things.					
86. I find it hard to say no when I do not want to do anything.					
87. The first thing I do is to think when I face a problem.					
88. I sincerely answered the questions above.					

Glossary

- **Unpretentious**: modest
- **Peevish**: irritable; easily annoyed or angered, especially by things that are not important
- **Inner feelings**: not expressed
- **To appeal**: to make a serious or heartfelt request
- **Range**: the limits within which a person is able to deal effectively with something
- **Be stuck**: be fixed and unable to move
- **Fantasy**: desirable imaginary situation; a pleasant, exciting, or unusual experience that you imagine is happening to you

- **Fond**: loving
- **To gratify**: to make someone feel pleased and satisfied
- **Annoying**: making slightly angry or impatient
- **To overcome**: to succeed in dealing with or controlling a problem
- **Anxiety**: a negative emotional reaction, a subjective feeling of tension, apprehension, nervousness, and worry associated with an arousal of the automatic nervous system
- **Exaggeration**: a comment or description that makes something seem better, worse, larger, more important etc. than it really is

APPENDIX C: Test Anxiety Psychometric Interview

Test Anxiety Psychometric Interview

Q1: Do you experience fear, anxiety, or helplessness before or during a test?

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q2: Do you procrastinate on studying because you fear performing poorly on tests?

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q3: Have you performed poorly on a test in the past and fear repeating the same performance?

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q4: Is it ever difficult to imagine yourself doing well on a test?

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q5: Do you "blank out" or have trouble concentrating during a test?

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q6: Do you experience nausea, sweating, racing heart, shortness of breath, or dizziness during a test?

- Never
- Rarely
- Sometimes
- Often
- Very Often

Q7: Have you had to exit a testing area before you finish due to high anxiety?

- Never
- Rarely
- Sometimes
- Often
- Very Often

Appendix D: The Emotions Checklist

	Character 1		Character 2	
	Silent	Sound	Silent	Sound
Happy				
Sad				
Angry				
Anticipating				
Fearful				
Surprised				
Accepting				
Disgusted				
Jealous				
Ashamed				

(Mayer, Salovey & Caruso, 2004)

Appendix E: Opinionnaire

1. To what extent do you think test taking anxiety affects your educational performance?

2. To what extent was the Emotional Intelligence Training understandable and easy to go through?

3. Did the Emotional Intelligence Training help you in reducing your Test Taking Anxiety?

4. Do you think Emotional Intelligence should be taught implicitly or explicitly in the classroom?

5. Do you think Emotional Intelligence Training would help in your daily life outside the education context?

Appendix F: The Story of the Elephant Nelson

In his book The Power of Self-Control, Dr. Ibrahim al-Faki told a story of an elephant named Nelson. The latter had been caught by a hunter to be used for entertainment in“circus”. Nelson was tied to a chain of about three meters linked to a big heavy iron ball. The elephant tried hard every day to get rid of this chain, but in vain. With repeated attempts and repeated failures, Nelson realized its inability to liberate itself from that ball and gave up trying again. Meanwhile, the hunter replaced the iron ball with a wooden fragile one. The unexpected fact and the surprise was that the elephant did no more attempts to free itself and remained in its zone of three meters as it used to with the iron ball. The hunter’s son was wondering why the elephant with its great power and the fragility of the chain did not try to escape!! The hunter replied: I know that the elephant is capable of escaping, and you know that too, but the most important thing is that the elephant is not aware of its ability and its strength and I hope it will not discover it…

Appendix G: The Story of the Woman in the Airport

There was a lady waiting in the airport for the plane. She bought a biscuit box and a newspaper. Then she sat down and began to read. Not far from her, there was a man who was also reading. Soon after, she began eating the biscuit. She, at that precise time, got very surprised when she noticed that the man was also getting the same biscuit. Each time she took a piece he did the same. She became angry and was thought nervously that this man is impolite. But she calmed herself down. When remained in the biscuit box only one piece, she wondered what this guy is going to do now. The man divided the piece of biscuit into two. He ate a half and left to her the other half. She could not resist any more. She took her bag and newspaper and went to the plane. When she was sitting in the plane, she was surprised by the biscuit box that she bought in her hand bag. She realized that she was all the time eating from the man's biscuit. She felt ashamed because the man was very kind, decent and generous with her. He shared his biscuit with her without grumble or complains. She wanted to apologize but unfortunately, she did not find time because the plan was about to fly.

The author: Anonymous

Résumé

Avec le nombre croissant d'étudiants qui souffrent d'anxiété liée aux examens, un problème qui les empêche de donner leur plein potentiel, cette étude vise à évaluer l'effet de la formation en intelligence émotionnelle sur la réduction de l'anxiété des apprenants. En outre, elle cherche à investiguer dans quelle mesure ce phénomène d'anxiété est répandu parmi les étudiants de première année de l'Université Batna 2 au niveau du département d'anglais. En utilisant la méthode d'échantillonnage aléatoire, nous avons choisi 100 étudiants de première année d'anglais comme échantillon. Nous avons hypothéqué que passer par la formation en intelligence émotionnelle aiderait à réduire l'anxiété des étudiants. Notre méthode de recherche avait un plan quasi-expérimental, elle impliquait la procédure de mesure des scores d'Intelligence Émotionnelle et d'Anxiété des étudiants, puis de les faire passer par la formation en intelligence émotionnelle pour vérifier s'il y a un changement significatif dans leur anxiété. Nous avons également utilisé un questionnaire après notre post-test pour recueillir des données qualitatives supplémentaires qui complèteront les données quantitatives. Les résultats de l'étude confirment notre hypothèse que la formation en intelligence émotionnelle réduit significativement l'anxiété des apprenants. Les résultats ont également montré que les niveaux d'anxiété des étudiants sont alarmants, ce qui peut nuire à leur rendement scolaire. Les résultats du questionnaire ont montré un retour positif concernant la formation, cependant, certains ont trouvé la formation difficile à saisir. Comme implications, nous avons trouvé que la formation en intelligence émotionnelle, que ce soit explicitement enseignée ou implicitement, est une stratégie efficace pour réduire l'anxiété des étudiants. En outre, nous devrions mettre en lumière les problèmes de santé mentale en Algérie tels que l'anxiété en raison de leur ampleur et des taux élevés d'anxiété montrés dans les résultats.

Mots-clés: intelligence émotionnelle, la formation à l'intelligence émotionnelle, l'anxiété due aux examens, quotient émotionnel.

الملخص

مع تزايد عدد الطلاب الذين يعانون من قلق الامتحان، وهي مشكلة تمنعهم من الوصول إلى إمكانياتهم الكاملة ، تهدف هذه الدراسة إلى تقييم تأثير تدريب الذكاء العاطفي في التقليل من شدة قلق المتعلمين. بالإضافة إلى ذلك تسعى الدراسة إلى التحقيق في مدى انتشار ظاهرة القلق بين طلاب السنة الأولى في جامعة باتنة 2 على مستوى قسم اللغة الإنجليزية. باستخدام طريقة أخذ العينات العشوائية، اخترنا 100 طالب في السنة الأولى قسم لغة إنجليزية كعينة لدينا. افترضنا أن التدريب على الذكاء العاطفي سيساعد في تقليل قلق الطلاب. كان أسلوب بحثنا ذا تصميم شبه تجريبي، فقد اشتمل على إجراء لقياس درجات الذكاء العاطفي والقلق لدى الطلاب ثم جعلهم يخضعون للتدريب الذكاء العاطفي للتحقق مما إذا كان هناك تناقص ملحوظ في قلقهم. استخدمنا أيضًا استبيانًا بعد الاختبار لجمع البيانات النوعية التي ستكمل البيانات الكمية. تدعم نتائج الدراسة فرضيتنا القائلة بأن تدريب الذكاء العاطفي يقلل بشكل كبير من قلق المتعلمين. أظهرت النتائج أيضًا أن مستويات قلق الطلاب مرتفعة بشكل مثير للقلق ، مما قد يؤثر سلبًا على أدائهم الأكاديمي. أظهرت نتائج الاستبيان ردود فعل إيجابية فيما يتعلق بالتدريب ، ومع ذلك ، وجد البعض صعوبة في استيعاب التدريب. كنتائج ، وجدنا أن تدريب الذكاء العاطفي ، سواء تم تدريسه بشكل صريح أو ضمنيًا ، هو استراتيجية فعالة للحد من قلق الطلاب. بالإضافة إلى ذلك ، يجب أن نسلط الضوء على قضايا الصحة العقلية في الجزائر مثل القلق بسبب حجمها ومعدلات القلق المرتفعة التي تظهر في النتائج.

الكلمات المفتاحية: الذكاء العاطفي ، تدريب الذكاء العاطفي ، قلق الاختبار للطلاب، الحاصل العاطفي