CHAPTER #1: INTRODUCTION

1.1 Intelligence:

Intelligence is the unique feature that distinguishes human beings from animals. Human intelligence, abbreviated as HUMINT, is deemed as the highest form of evolution in the entire animal kingdom. The term has been used across various situations including artificial intelligence, intelligence services, intelligent systems, and so on (Jensen, McElreath & Graves, 2013; p. 239). Applied in the context of human psychology, general intelligence is all about an ability to use mental functions like thinking and problem solving. It is characterized by several processes beginning with sensation, perception, consciousness, self-awareness, and volition, judgment, learning of concepts, comprehension, and application of logic, reasoning, and so many more things.

Alfred Binet, the French psychologist, defined intelligence as the totality of mental processes involved adapting to ones environment. As a socially constructed concept, intelligence is viewed or explained differently across various cultures. The term ‘intelligence’ derives its etymological origin from Latin ‘intelligere’ which means ‘to comprehend or perceive’. The Greeks used a word called ‘nous’. However, the usage by Greek thinkers has been dubbed as metaphysical and cosmological as it invokes an immortality to the soul and also talks about transmigration of souls. This approach to intelligence has been rejected by many modern psychologists (Shiraev, 2015: p. 45).
1.1.1 Meaning:

According to Cambridge dictionary, the term *intelligence* means ‘the ability to learn, understand, and make judgments or have opinions that are based on reason’. The Oxford dictionary explains intelligence as ‘the ability to acquire and apply knowledge and skills’. The Merriam-Webster dictionary defines intelligence as: The ability to learn or understand or to deal with new trying situations; make skilled use of reason; ability to apply knowledge in order to manipulate ones environment or to think abstractly as measured by objective criteria or psychological tests. In simple words, intelligence is nothing but thinking skills and the ability to adapt to and to learn from life’s everyday experiences.

Intelligence is not to be mistaken as book learning, a narrow academic skill or test taking smartness. It is not ‘catching on’, ‘making sense of things’ or ‘figuring out what to do. There is vast difference between intelligence and common sense. Intelligence is our ability to understand and learn concepts and information. Wisdom, or what we're calling common sense, is our experiences, our intuition, our habits, and how we apply them in our life. Sometimes, the term knowledge is also confused as intelligence. In general terms, intelligence is the ability to process information while knowledge is retention of processed information. It is also not to be confused with education. One can be highly intelligent without being highly educated. One can also be highly educated without being highly intelligent.

1.1.2 Definitions:

There is no single agreed upon definition of intelligence. A list of common definitions (Sternberg & Detterman, 1986) of intelligence is given below:
'the ability for judgement or common sense’: Alfred Binet.

‘one’s capacity to deal effectively with situations’: EL Thorndike.

‘the ability to adapt to one’s surroundings’: Jean Piaget.

‘the capacity of flexible adjustment’: Cyril Burt

‘the aggregate global capacity to think rationally, act purposefully, and deal effectively with the environment’: David Wechsler.

‘the resultant of the process of acquiring, storing in memory, retrieving, combining, comparing and using in new contexts information and conceptual skills’: Lloyd Humphreys.

‘entail a set of skills of problem solving — enabling the individual to resolve genuine problems or difficulties that he or she encounters and, when appropriate, to create an effective product — and must also entail the potential for finding or creating problems — and thereby laying the groundwork for the acquisition of new knowledge’: Howard Gardner.

‘the ability to deal with cognitive complexity’: Linda Gottfredson.

‘goal directed adaptive behavior’: Sternberg & Salter.

1.1.3 Nature:

There is no agreement on the nature of human intelligence. To take an example, EL Thorndike (Mangal, 1998) explained its nature based on the following:

1. **Concrete Intelligence**—It is the ability of an individual to comprehend actual situations and to react to them adequately. Concrete intelligence is evident from various activities of daily life. This type of intelligence is
applicable when the individual is handling concrete objects or medicines. Engineers, mechanics and architects have this type of intelligence.

2. **Abstract Intelligence**—It is the ability to respond to words, numbers and symbols. Abstract intelligence is required in the ordinary academic subjects in the school. This is acquired after an intensive study of books and literature. Good teachers, lawyers, doctors, philosophers etc. have this type of intelligence.

3. **Social Intelligence**—It means the ability of an individual to react to social situations of daily life. Adequate adjustment in social situations is the index of social intelligence. Persons having this type of intelligence know the art of winning friends and influencing them. Leaders, ministers, members of diplomatic sources and social workers have it.

Gardner (2011; 2008; 1999; 1993) explains nine types of intelligence. They are:

1. **Naturalist Intelligence**—This refers to the human ability to discriminate among living things (plants, animals) as well as sensitivity to other features of the natural world (clouds, rock configurations). This ability is of value in our evolutionary past as hunters, gatherers, and farmers. It continues to be central in such roles as botanist or chef. It is also speculated that much of our consumer society exploits the naturalist intelligence, which can be mobilized in the discrimination among cars, sneakers, kinds of makeup, and the like.

2. **Musical Intelligence**—This is the capacity to discern pitch, rhythm, timbre, and tone. This intelligence enables us to recognize, create, reproduce, and reflect on music. It is shown by composers, conductors, musicians, vocalist
and sensitive listeners. Interestingly, there is often an affective connection between music and emotions. Mathematical and musical intelligence may share common thinking processes. Young adults with this kind of intelligence are usually singing or drumming to themselves. They are usually quite aware of sounds others may miss.

3. Logical-Mathematical Intelligence—This is an ability to calculate, quantify, consider propositions and hypotheses, and carry out complete mathematical operations. It enables us to perceive relationships and connections and to use abstract, symbolic thought; sequential reasoning skills; and inductive and deductive thinking patterns. Logical intelligence is usually well developed in mathematicians, scientists, and detectives. Young adults with lots of logical intelligence are interested in patterns, categories, and relationships. They are drawn to arithmetic problems, strategy games and experiments.

4. Existential Intelligence—This involves sensitivity and capacity to tackle deep questions about human existence, such as the meaning of life, why do we die, and how did we get here.

5. Interpersonal Intelligence—This is the ability to understand and interact effectively with others. It involves effective verbal and nonverbal communication, the ability to note distinctions among others, sensitivity to the moods and temperaments of others, and the ability to entertain multiple perspectives. Teachers, social workers, actors, and politicians all exhibit this intelligence. Young adults with this kind of intelligence are leaders among their peers, are good at communicating, and seem to understand others’ feelings and motives.
6. **Bodily-Kinaesthetic Intelligence**-This is the capacity to manipulate objects and use a variety of physical skills. It also involves a sense of timing and the perfection of skills through mind–body union. Athletes, dancers, surgeons, and craftspeople exhibit well-developed bodily kinaesthetic intelligence.

7. **Linguistic Intelligence**-This is the ability to think in words and to use language to express and appreciate complex meanings. It allows us to understand the order and meaning of words and to apply meta-linguistic skills to reflect on our use of language. Linguistic intelligence is the most widely shared human competence and is evident in poets, novelists, journalists, and effective public speakers. Young adults with this kind of intelligence enjoy writing, reading, telling stories or doing crossword puzzles.

8. **Intra-personal Intelligence**-This is the capacity to understand oneself and one’s thoughts and feelings, and to use such knowledge in planning and directioning one’s life. Intra-personal intelligence involves not only an appreciation of the self, but also of the human condition. It is evident in psychologist, spiritual leaders, and philosophers. These young adults may be shy. They are very aware of their own feelings and are self-motivated.

9. **Spatial Intelligence**-This is the ability to think in three dimensions. Core capacities include mental imagery, spatial reasoning, image manipulation, graphic and artistic skills, and an active imagination. Sailors, pilots, sculptors, painters, and architects all exhibit spatial intelligence. Young adults with this kind of intelligence may be fascinated with mazes or jigsaw puzzles, or spend free time drawing or daydreaming.
Charles Spearman (Brody, 2013; Sternberg, 2003a) developed a 2-factor theory of intelligence using factor analysis. He developed the ‘g’ factor of general intelligence as well as the ‘s’ factor of specific intellectual abilities. Based on empirical data, Spearman concluded that there must be one central factor that influences our cognitive abilities. Later, LL Thurstone also supported that there is an underlying g factor across various intelligence. Not all psychologists agree with Spearman and his general intelligence. Godfrey Thomson opposed him.

Psychologists continue to divide general intelligence into specific factors. The Cattell-Horn-Carroll Theory of Cognitive Abilities, for example, proposes that ‘g’ is comprised of multiple cognitive abilities which when taken as whole produce ‘g’. Their list covers:

- Crystallised Intelligence
- Fluid Intelligence
- Quantitative Reasoning
- Reading and Writing Ability
- Short Term Memory
- Long Term Storage and Retrieval
- Visual Processing
- Auditory Processing
- Processing Speed
- Decision and Reaction Speed
In the 1980s, Robert Sternberg proposed a triarchic theory of intelligence (Sternberg, 1985). He distinguished between: (a) Componential Intelligence as assessed by intelligence tests; (b) Experiential Intelligence as the ability to adapt to new situations and produce new ideas; and, (c) Contextual Intelligence as ability to function effectively in daily situations.

Philip E Vernon (1905-1987) proposed a hierarchical model to Spearman’s g and as having two major group factors: verbal-educational ability and practical-spatial-mechanical abilities which could be further decomposed into smaller factors (Sternberg, 2003b). The factors at the top were more general abilities that affected a wide range of intelligent behaviors while those factors at the bottom involved specific skills for an act.

David Perkins (1995) presented detailed arguments that IQ has three major components or dimensions:

(a) **Neural intelligence.** This refers to the efficiency and precision of one’s neurological system.

(b) **Experiential intelligence.** This refers to one’s accumulated knowledge and experience in different areas. It can be thought of as the accumulation of all of one’s expertise.

(c) **Reflective intelligence.** This refers to one’s broad-based strategies for attacking problems, for learning, and for approaching intellectually challenging tasks. It includes attitudes that support persistence, systemization, and imagination. It includes self-monitoring and self-management.
1.1.4 History:

The story of intelligence has a long past but a century old history. Alfred Binet and Theodore Simon were commissioned to identify students who needed educational assistance. It was then that the first test of intelligence was born. The mental age-scale developed by the duo was a great success in France to be emulated and adapted as the Stanford-Binet Scales in the USA along with the invention of the concept of IQ. During the World War I, Army Alpha and Beta Tests developed by Robert Yerkes were used for soldier recruitment. The Wechsler Intelligence Scales were developed in 1955 as point scales. It measures verbal, performance and combined IQ scores. Children version of the scales was also developed. Deviation IQ scores was introduced later to ascertain ones level of intelligence (Cianciolo & Sternberg, 2004).

Questions have been continually raised regarding the cognitive loadings in all intelligence tests, whether intelligence is combined product of heredity as well as environment, whether the developed and standardized tests are culturally fair or biased against certain populations, can IQ trained and improved and how is IQ related to educational performance. How much is the correlation between two or more tests or examiners. Its detractors have argued whether there is something which may be really viewed as intelligence or whether it is whatever the test measures.

1.1.5 Recent Trends:

The study of intelligence has been continuously evolving dynamic field. With the upcoming concepts of Artificial Intelligence, increased wireless connectivity, deep learning or convolutional neural networks are replacing workers. Breakthroughs have been achieved in emotional understanding, computers are better able to detect our emotional state. The concept of interpersonal intelligence is gathering momentum
over and above the traditional cognitive-based emphasis on higher mental functions alone.

Interpersonal intelligence is the ability to understand other people: what motivates them, how they work, how to work cooperatively with them (Silberman & Hansburg, 2000). Successful salespeople, politicians, teachers, clinicians, and religious leaders are all likely to be individuals with high degrees of interpersonal intelligence. At the same time, social intelligence probably draws on specific internal (Gardner would say intrapersonal) abilities.

Martin Luther King, Jr., Aristotle, and Mother Teresa are all historical figures that had high interpersonal intelligence. In other words, they were easily able to interact with and understand those around them. People with interpersonal intelligence are able to pick up on the mood, characteristics, emotions, and intentions of those around them. They are also able to use this information to tailor their approach of interacting with each individual. People with interpersonal intelligence often:

1. Work well with others
2. Are skilled verbal and nonverbal communicators
3. Enjoy social events or being around others
4. Are natural leaders among peers and groups
5. Have good problem-solving skills
6. Are empathetic
7. Are good at socializing with others and enjoy discussion
8. Can examine a situation from multiple points of view
9. Easily form strong, positive relationships with others
10. Are extraverted
1.2 Emotional Intelligence:

Cognitive aspects have always remained a defining ingredient of most definitions of intelligence. The importance of feelings, emotions, sentiments, and/or other conative features to be made an integral part of human intelligence was proposed for first time in the concept of emotional intelligence (EI; Goleman, 1995). EI is the capability of individuals to recognize their own, and other people’s emotions, to discern between different feelings and label them appropriately. They then use the emotional information to guide thinking and behavior and to manage and/or adjust emotions to adapt environments or achieve ones goals. The ability to express and control our emotions is essential. So is our ability to understand, interpret, and respond to the emotions of others. Imagine a world in which you could not understand when a friend was feeling sad or when a co-worker was angry. Psychologists refer to this ability as emotional intelligence, and some experts even suggest that it can be even more important than IQ. It refers to the ability to perceive, control and evaluate emotions.

1.2.1 Meaning of Emotional Intelligence:

Emotional Intelligence is ‘a type of social intelligence that involves the ability to monitor one's own and others’ emotions, to discriminate among them, and to use the information to guide one's thinking and actions (Mayer & Salovey, 1993, p. 433). According to Goleman (1995), emotional intelligence refers to ‘the skills that help people harmonize, should become increasingly valued as a workplace asset in the years to come’. EI may subsume Gardner's inter- and intrapersonal intelligences and involves abilities that may be categorized into five domains (Salovey & Mayer, 1990):
The meaning of EI has something specific to do with intelligent intersecting with thoughts and emotions. It represents an ability to validly reason with emotions and use them to enhance thought.

- **Self-awareness**: Observing yourself and recognizing a feeling as it happens.
- **Managing emotions**: Handling feelings so that they are appropriate; realizing what is behind a feeling; finding ways to handle fears and anxieties, anger, and sadness.
- **Motivating oneself**: Channeling emotions in the service of a goal; emotional self control; delaying gratification and stifling impulses.
- **Empathy**: Sensitivity to others' feelings and concerns and taking their perspective; appreciating the differences in how people feel about things.
- **Handling relationships**: Managing emotions in others; social competence and social skills.

### 1.2.2 Definitions:

There are many possible definitions of EI. A formal definition of EI is the capacity to reason about one's emotions, and of emotions to enhance thinking. It includes the abilities to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth. Another definition says that EI refers to an ability to recognize the meanings of emotion and their relationships and to reason and problem-solve on the basis of them. It is involved
in the capacity to perceive emotions, assimilate emotion-related feelings, understand the information of those emotions, and manage them.

Coleman (2008) defined EI as ‘the ability to monitor one's own and other people's emotions, to discriminate between different emotions and label them appropriately and to use emotional information to guide thinking and behavior. According to English Oxford Dictionary, EI is defined as ‘the capacity to be aware of, control, and express one's emotions, and to handle interpersonal relationships judiciously and empathetically’. Other standard definitions of EI are listed as follows.

- An innate ability which gives us our emotional sensitivity and our potential for learning healthy emotional management skills or the innate potential to feel, use, communicate, recognize, remember, describe, identify, learn from, manage, understand and explain emotions (Hein, 2007).

- The subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions (Mayer-Salovey, 1990).

- The ability to process emotional information, particularly as it involves the perception, assimilation, understanding, and management of emotion (Cobb & Mayer, 2000).

- An array of non-cognitive capabilities, competencies, and skills that influence one's ability to succeed in coping with environmental demands and pressures (Bar-On, 2003).
• Emotional intelligence is the set of abilities that we like to think of as being on the other side of the report card from the academic skills (Elias & Arnold, 2006).

• The ability to acquire and apply knowledge from your emotions and the emotions of others. You can use the information about what you're feeling to help you make effective decisions about what to say or do (or not say or do) next (Stock, 2008).

1.2.3 Nature:

It is asked whether EI is innate or learned. According to one opinion, each baby is born with a specific and unique potential for these components of EI, such as, emotional sensitivity, emotional memory, and emotional processing ability. Wherein it is viewed as innate potential, it is assumed that babies can feel emotions, use emotions, communicate emotions, recognise emotions, remember emotions, learn from emotions and manage emotions.

Mayer-Salovey (1990) recognize four branches of EI: (a) Emotional Perception involving abilities like identifying emotions in faces, music, and stories; (b) Emotional Facilitation of Thought involving such abilities as relating emotions to other mental sensations such as taste and color and using emotions in reasoning and problem solving; (c) Emotional Understanding involves solving emotional problems such as knowing which emotions are similar or opposite and what relations they convey; (d) Emotional Management involves understanding the implications of social acts on emotions and the regulation of emotion in self and other.
Kimberly, Barchard and Hakstian (2004) identified five factors as dimensions of EI: Emotional Congruence, Emotional Independence, Social Perceptiveness, Alexithymia, and Social Confidence. An emotionally congruent person is someone who is mentally aware of the emotions they are feeling at the moment they are feeling them. They are then able to use their mental reasoning when an emotional event happens. Emotional Independence is when you use your emotions instead of letting them use you, when you take responsibility for your emotions and when you don't need someone else to make you happy. Social perceptiveness is about how people form impressions of and make inferences about other people. We learn about others’ feelings and emotions by picking up information we gather from their physical appearance, verbal, and nonverbal communication. Alexithymia is subclinical inability to identify and describe emotions in the self. The core characteristics of alexithymia are marked dysfunction in emotional awareness, social attachment, and interpersonal relating with others. Social Confidence describes the sense of poise or assurance one carries in social situations or when dealing with other persons.

It is important to understand that there are critical differences between Intelligence Quotient and Emotional Quotient. EQ is a way to measure how a person recognizes emotions in themselves and others, and manage these emotional states to work better as a team. IQ is a value that indicates a person’s ability to learn, understand, and apply information and skills in a meaningful way. EQ is understanding emotion. IQ is understanding information. A high EQ means someone is self-confident, self aware, and able to handle difficult emotional experience. A high IQ may be able to learn certain subjects very quickly and make connections between ideas that others miss. People with high EQ can often better recognize and control their own emotions, and recognize emotional states in others to adjust their behaviors accordingly. People with
high IQ often have great academic success, although they may struggle to find classes that challenge them. EQ is difficult to measure and EQ tests were not developed until the 1990s, compared to IQ tests which were developed in early 20th century. There are many individuals with very high IQs who seem to be limited in terms of social skills and emotional recognition. An EQ exam is difficult to design and administer because it deals with information that is difficult to present as a numerical value. Tests are more subjective. Issues arise such as people realizing they are being tested on their emotional capabilities and adjusting their answers accordingly. An IQ test usually involves a set of standardized questions for which the test taker receives a score. This score is compared against the average scores of others within the same age range to determine a person’s intellectual potential.

1.2.4 History:

The major milestones in the short history of research and works on the concept of EI are delineated below:

- 1930s - Edward Thorndike describes the concept of "social intelligence" as the ability to understand, manage and get along with other people, to act wisely in human relations.
- 1940s - David Wechsler suggests that affective components of intelligence may be essential to success in life.
- 1950s - Humanistic psychologists such as Abraham Maslow describe how people can build emotional strength.
- 1964- The term "emotional intelligence" seems first to have appeared in a paper by Michael Beldoch, and in the 1966 paper by B. Leuner entitled Emotional intelligence and emancipation which appeared in
the psychotherapeutic journal: Practice of child psychology and child psychiatry.

- 1975 - **Howard Gardner** publishes The Shattered Mind, which introduces the concept of multiple intelligences.

- In 1983, **Howard Gardner** publishes Frames of Mind: The Theory of Multiple Intelligences. He introduced the idea that traditional types of intelligence, such as, IQ fail to fully explain cognitive ability. He introduced the idea of multiple intelligences, which included both *interpersonal intelligence* (the capacity to understand the intentions, motivations and desires of other people) and *intrapersonal intelligence* (the capacity to understand oneself, to appreciate one's feelings, fears and motivations).

- 1985 - **Wayne Payne** introduces the term emotional intelligence in his doctoral dissertation entitled "A study of emotion: developing emotional intelligence; self-integration; relating to fear, pain and desire (theory, structure of reality, problem-solving, contraction/expansion, tuning in/coming out/letting go)."

- 1987 - In an article published in Mensa Magazine, **Keith Beasley** uses the term "emotional quotient." It has been suggested that this is the first published use of the term in the British Mensa magazine although Reuven Bar-On claims to have used the term in an unpublished version of his graduate thesis.

- 1990 - Psychologists **Peter Salovey** and **John Mayer** publish their landmark article, "Emotional Intelligence," in the journal Imagination, Cognition, and Personality describing it as "a form of social
intelligence that involves the ability to monitor one’s own and others’ feelings and emotions, to discriminate among them, and to use this information to guide one’s thinking and action”. They proposed a model that identifies four different factors of EI.

- 1995 - The concept of emotional intelligence is popularized after publication of psychologist and New York Times science writer Daniel Goleman’s book Emotional Intelligence: Why It Can Matter More Than IQ. It is to this book's best-selling status that the term can attribute its popularity. Goleman has followed up with several further popular publications of a similar theme that reinforce use of the term. To date, tests measuring EI have not replaced IQ tests as a standard metric of intelligence. Emotional Intelligence has also received criticism on its role in leadership and business success.

- 2000 - The distinction between trait emotional intelligence and ability emotional intelligence was introduced.

1.2.5 Models:

Currently, there are three main models of EI. They are (a) Ability Model; (b) Mixed Model; and, (c) Trait Model.

Ability models proposed by Mayer and Salovey address the ways in which emotions facilitate thought and understanding. For example, emotions may interact with thinking and allow people to be better decision makers. EI is viewed as the ability to perceive emotion, integrate emotion to facilitate thought, understand emotions and to regulate emotions to promote personal growth. This model views emotions as useful sources of information that help one to make sense of and navigate the social
environment. It proposes that individuals vary in their ability to process information of an emotional nature and in their ability to relate emotional processing to a wider cognition. This ability is seen to manifest itself in certain adaptive behaviors. This model claims that EI includes four types of abilities: (a) Perceiving Emotions; (b) Using Emotions; (c) Understanding Emotions; and (d) Managing Emotions.

Mixed Models introduced by Daniel Goleman focus on EI as a wide array of competencies and skills that drive leadership performance. This model outlines five main EI constructs: (a) Self Awareness; (b) Self Regulation; (c) Social Skill; (d) Empathy; and, (e) Motivation. These competencies are not viewed as innate. Rather, they are learned capabilities that must be worked on and can be developed.

The ‘trait’ models (Petrides & Furnham, 2001) view EI as a constellation of emotional self-perceptions located at the lower levels of personality. In lay terms, trait EI refers to an individual's self-perceptions of their emotional abilities. This definition of EI encompasses behavior dispositions and self-perceived abilities. It is measured by self reports as opposed to ability model which refers to actual abilities that are highly resistant to scientific measurement. Trait EI is investigated within a personality framework.

### 1.2.6 Measurement:

The measurement of EI depends on the model espoused. An emotion-based problem solving ability approach is advocated in ‘Mayer-Salovey-Caruso Emotional Intelligence Test’ (MSCEIT; Mayer, Salovey & Caruso, 2006; Mayer, Salovey, Caruso & Sitarenios, 2003). The ‘Trait Emotional Intelligence Questionnaire’ (TEIQue; Petrides & Furnham, 2001) illustrate traits-model approach. The Emotional Competency Inventory (ECI; Hay Group, 2005), its newer edition called as
‘Emotional and Social Competency Inventory’ (ESCI; Hay Group, 2011) or its group version called ‘Group Emotional Competence Inventory’ (GECI; Koman, Wolff & Howard, 2008) highlight the ‘mixed’ approach to measurement of EI. Some measures of EI from the West are: The Genos Emotional Intelligence Inventory (Genos EI; Palmer, Stough, Harmer & Gignae, 2009), The Profile of Emotional Competence (PEC; Brasseur, Grégoire, Bourdu & Mikołajczak, 2013), Schutte Emotional Intelligence Scale (SSEIT; Austin, Saklofske, Huang & McKenney, 2004; Schutte et al. 1998), Work Group Emotional Intelligence Profile (WGEIP; Jordan, Ashkansay, Harlet, & Hooper, 2002), Wong’s Emotional Intelligence Scale (WEIS; Wong, Law & Wong, 2004), and others. Available scales to measure EI in our country are: Emotional Intelligence Scale (EIS; Hyde, Pethe & Dhar, 2002), Emotional Intelligence Test (EIT; Zainuddin & Ahmed, 2011), Situational Judgment Test of Emotional Intelligence (SJET; Sharma, Gangopadhyay, Austin & Mandal, 2013), Emotional Intelligence Inventory (EII; Mangal & Mangal, 2011), Emotional Intelligence Scale (EIS; Singh & Narain, 2014), Emotional Intelligence Scale (EIS; Srinivasan & Murugesan, 2014), etc. Caution must be struck that many of the tests that have appeared in recent times promising to measure emotional intelligence might not have been empirically evaluated.

1.2.7 Emotional Intelligence in various populations:

From the foregoing discourse, it is evident that EI plays a crucial role in lives of people. Increasing emotional intelligence makes individuals more efficient, productive, and successful. Organizations can become more productive by hiring emotionally smart people and by offering opportunities to enhance these skills in the workplace. Wherein success is defined as one’s ability to set and achieve personal and
professional goals, IQ’s relevance to success is estimated to be low (Sternberg, 1997). On the other hand, EQ’s relevance to job success is estimated to be high (Stein & Book, 2010).

EI has been measured across a variety of populations including students, adolescents, clergy, teachers, managers, nurses, doctors, librarian, technology professionals, helping professionals, human service workers, sportspersons or their coaches, lecturers in polytechnic colleges, local government employees, call center representatives, bank employees, educational management and others (Sergio, Dungca & Ormita, 2015; Gupta, Koolwal & Gehlot, 2014; Sydney-Agbor, Ebeh, Nwankwo & Agu, 2014; Vanishree, 2014; Dhadwal & Kushwaha, 2013; Sani, Masrek, Sahid & Nadzar, 2013; Velumurugan & Balakrishna, 2013; Ahmed, 2012; Borse, 2012; Jha & Singh, 2012; Kumar & Muniandy, 2012; Moradi, Honari, Naghshbandi, Jabari & Azarpira, 2012; Pahuja & Sahi, 2012; Oginska-Bulik, 2005; Patra, 2004). Although, there has been attempts to study EI in Indian Border Security Force Personnel (Chhabra & Chhabra, 2013), it has been less frequently assessed directly on police personnel in the country (Mohanraj & Natesan, 2014; Aremu & Tejumola, 2008).

EI must be also understood in the developmental perspective. For example, an ability of EI like empathy begins with early roots in infancy, grows among toddlers, and develops as a child matures to the teen years. A state of arrested or incomplete development can lead to significant impairment in social functioning associated with abnormally aggressive or socially irresponsible conduct on the part of the person concerned. Poor social cognitive maturity can affect futuristic thinking, lack of appreciation for cause-effect associations, ethical conduct, poor planning and decision
making, or no appreciation of the rules underlying social conduct (Mangal & Mangal, 2011).

1.3 Job Satisfaction:

People identify themselves by their profession, such as a doctor, lawyer, or teacher. Job Satisfaction (JS) represents one of the most complex areas for study in the field of human resource management. It refers to the positive attitudes or emotional dispositions people may gain from work or through aspects of work that they do (Robbins, 2003, p. 72). It explains how satisfied an employee is with his job. It is assumed to have a close relationship with job performance. JS typically involves recognition for a job well done. It includes job flexibility and personal freedom, a healthy working environment, having a feeling of doing some meaningful work, exercising a sense of responsibility, accountability, with equitable compensation for the work done. JS also carries with it the chance to work with interested, motivate and responsible people. Some authors attribute passion, proficiency and profitability as the three main components of JS. In the absence of JS, there is likely to be felt dissatisfaction, frustration, boredom and failure. Despite its wide usage, there is still no agreement on what it represents or how it is to be defined.

According to Cambridge Dictionary, JS means ‘the feeling of pleasure and achievement that one experience in his job when he know that his work is worth doing or the degree to which his work gives him this feeling’. The Oxford Dictionary refers to it as ‘feeling of fulfillment or enjoyment that a person derives from their job’.
1.3.1 Definition:

There are as many definitions of JS as there are different approaches towards its study. A few definitions of JS are enumerated below:

‘Any combination of psychological, physiological and environmental circumstances that cause a person truthfully to say I am satisfied with my job’ (Hoppock, 1937).

‘Affective orientations on the part of individuals toward work roles which they are presently occupying’ (Vroom, 1964).

‘… implies doing a job one enjoys, doing it well and being rewarded for one’s efforts... It further implies enthusiasm and happiness with one’s work. It is the key ingredient that leads to recognition, income, promotion, and the achievement of other goals that lead to a feeling of fulfillment’ (Kaliski, 2007).

‘The extent to which a worker is content with the rewards he or she gets out of his or her job, particularly, in terms of intrinsic motivation’ (Statt, 2004).

‘... refer to the attitudes and feelings people have about their work. Positive and favorable attitudes towards the job indicate job satisfaction. Negative and unfavorable attitudes towards the job indicate job dissatisfaction’ (Armstrong, 2006).

‘a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences’ (Locke, 1976).
‘It has to do with the way how people feel about their job and its various aspects. It has to do with the extent to which people like or dislike their job. It is simply how content an individual is with his or her job; whether he or she likes the job or not’ (Spector, 1997).

A more recent definition includes multidimensional psychological responses to an individual's job, and that these personal responses have cognitive (evaluative), affective (or emotional), and behavioral components (Hulin & Judge, 2003).

1.3.2 Nature

Wherein JS is defined by its cognitive, emotional and behavioral components, the emotional component refer to job-related feelings such as boredom, anxiety, acknowledgement and excitement. The cognitive component of job satisfaction pertains to beliefs regarding one's job whether it is respectable, mentally demanding/challenging and rewarding. Finally, the behavioral component includes people's actions in relation to their work such as tardiness, working late, faking illness in order to avoid work (Bernstein & Nash, 2008).

Some authors distinguish two types of JS. The first, and most analyzed, is global JS, which refers to employees' overall feelings about their jobs (e.g., "Overall, I love my job") (Mueller & Kim, 2008). The second is job facet satisfaction, which refers to feelings regarding specific job aspects, such as, salary, benefits, work hierarchy (reporting structure), growth opportunities, work environment and the quality of relationships with one's co-workers (e.g., "Overall, I love my job, but my schedule is difficult to manage") (Mueller & Kim, 2008). The study of employee JS can help organizations to improve employee job performance and reduce absenteeism or turnover. JS impacts a person's general well being for the simple reason that people
spend a good part of the day at work. Consequently, a person's dissatisfaction with work could lead to dissatisfaction in other areas of life. There are several myths regarding JS. One myth is that a happy employee is a productive employee. On the contrary, casualness may creep in, shifting from productivity to satisfaction. Another fallacy is that the pay is the most important factor in JS. In reality, employees are more satisfied when they enjoy the environment in which they work. An individual can have a high paying job and not be satisfied because it is boring and lacks sufficient stimulation. In fact, a low-paying job can be seen as satisfying if it is adequately challenging or stimulating. There are numerous factors that must be taken into consideration when determining how satisfied an employee is with his or her job, and it is not always easy to determine which factors are most important to each employee. JS is very subjective for each employee and each situation being assessed.


A distinction has been also made between affective and cognitive JS. The former is a subjective construct representing an emotional feeling individuals have about their job, while the latter is one-dimensional if it comprises evaluation of just one facet of a job, such as, pay or maternity leave, or multidimensional if two or more facets of a job are simultaneously evaluated. Cognitive JS does not assess the degree of pleasure or happiness that arises from specific job facets, but rather gauge the extent to which those job facets are judged by the job holder to be satisfactory in comparison with objectives they themselves set or with other jobs. While cognitive JS might help bring
about affective JS, the two constructs are distinct and not necessarily directly related. They may have different antecedents and consequences.

1.3.3 History

The assessment of JS in employees through anonymous surveys was a popular activity during 1930s. Hoppock (1937) is credited as the first psychologist to study JS that affected both the nature of the job and relationships with coworkers. Scientific Management or Taylorism laid the foundations for study of JS. Following this, Hawthorne studies in 1920s and 1930s are deemed as one of the biggest preludes to the study of JS. These studies examined the notions that a ‘happy worker is a productive worker’ although this was refuted by later research. Likewise, the relationship between JS and job performance has been also shown to be weak in recent times (Jones, 2006). Similarly, although it may seem natural to assume that individuals who dislike their jobs will often call in sick, or simply look for a new opportunity and, therefore, there might be a link between JS and absenteeism, this myth has been also exploded (Johns, 1997). Some big names in the field of JS are: WL Bryan, Walter Dill Scott and Hugo Munsterberg. Some argue that Maslow’s Hierarchical Need Theory, a motivation theory, laid the foundation for theories and models on JS.

1.3.4 Models

There are several models to explain JS. The Affect Theory, proposed by EA Locke, underlines that JS is determined by a discrepancy between what one wants in a job and what one has in the job. The Dispositional Approach recognizes individual differences in JS although it tends to be stable over time within a person as a trait across careers and jobs. Equity Theory stresses the importance of perceived fairness
in JS. For example, two employees on the same job and receiving the same pay or benefits will likely develop dissatisfaction if one of them is given preference over the other in the workplace. Discrepancy Theory recognizes anxiety and depression over not performing well, or not being able to achieve their hopes and aspirations, meet ones obligations and responsibilities as the key to felt JS or otherwise. Another Two-Factor Theory by F. Herzberg explains satisfaction and dissatisfaction as driven by different factors—motivation and hygiene. Motivation factors are intrinsic to the job or the work carried out. Hygiene factors include aspects of the working environment, such as, pay, supervision practices, working conditions, and management policies. Hackman & Oldham (1974) proposed the Job Characteristics Model to highlight its role in JS.

1.3.5 Measurement

An employee JS is measured by various factors, such as, pay, promotion, benefits, policies and procedures, and relationship with higher authority, work timings, work-family conflict, and the job itself (Howard, Donofrio & Boles, 2004). The common procedure of measuring job satisfaction involve use of direct interview, questionnaires or paper-pencil tests, proxy reports, or theme based focus group discussions. Perhaps, the easiest and most convenient technique is to use job satisfaction scales. Such scales quickly cover many facets of job satisfaction, make available norms, show acceptable levels of reliability, and save cost or time. Some well known measures are: Job Descriptive Index (JDI; Kihm, Smith & Irwin, 1997; Hanisch & Kathy, 1992; Smith, Kendall & Hulin, 1969), Job Satisfaction Scale (D-JSS; Dantzker, 1993), Minnesota Satisfaction Questionnaire (MSQ; Weiss, Dawis, England & Lofquist, 1967), the Job Diagnostic Survey (JDS; Hackman & Oldham, 1974). Another two generic job
satisfaction scales are: Job in General Scale (JIG; Russell et al. 2004; Ironson et al., 1989), and Michigan Organizational Assessment Questionnaire satisfaction subscale (MOAQ; Bowling & Hammond, 2008; Cammann, Fichman, Jenkins & Klesh, 1979). Dantzker (1994; 1993) describes the creation of a 23-item JS measure exclusively for the use among police officers. Another JS Scale has been designed and developed exclusively for industrial salesmen (Churchill, Ford & Walker, 1974). A few standardized scales to measure job satisfaction are also available in India (Munir & Khatoon, 2015; Kumar & Khan, 2014; Mehta & Kiran, 2014; Bhatnagar, Srivastava, Singh & Jadav, 2011).

1.3.6 Job Satisfaction in Various Populations

JS has been studied severally across various populations including nursing (Ahmad, Oranye & Danilov, 2017), managerial employees, hospital staff working government teaching hospital (Jaiswal, Gadpayle, Singhal, Sachdeva, Modi, Padaria & Ravi, 2015), librarians (Bansod, 2013; Wahba, 1978), paramilitary personnel (Rai & Khurana, 2006), and others. A few studies have even addressed military staff employed on contract basis (Rus & Sandu, 2013; Abedi & Mazruee, 2010). As it is seen, empirical research on JS in police personnel appears to be laggard (Zhao, Thurman & He, 1999; Bennett 1997; Buzawa, 1984).

1.4 Relationship between Emotional Intelligence & Job Satisfaction

EI and JS are two concepts of high interest in modern work environment. They serve as a competitive edge in personal and organizational life. The relationship between EI and JS is gaining the attention of researchers in recent times (Tagoe & Quarshie,
It is generally considered that employees with higher EI will have higher JS because they are able to develop strategies to overcome the possible consequences which may arise out of stress. Additionally, in group settings, employees with higher EI will be able to influence the emotions of others in such a manner that, they will be able to boost their own as well as the morale of their coworkers. However, there are also other studies in this field which did not find a significant relation between JS and EI (Aghdasi, Kiamanesh & Ebrahim, 2011) or simply reported weak to moderate relationships (Carmeli, 2003; Kafetsios & Zampetakis, 2008; Vakola, Tsaousis & Nikolaou, 2003). It maybe also noted that only certain component of EI influence or predict JS (Platsidou & Agaliotis, 2008). Thus, the situation is one of mixed findings on the issue of relationship between EI and JS (Kassim, Bambale & Jakada, 2016). Mehdi, Habib, Salah & Gashtaseb (2012) argue that there is relation between football coaches’ EI and their JS.

1.5 Training on Emotional Intelligence:

Since higher levels of EI have been shown to boost career success, entrepreneurial potential, leadership talent, health relationship satisfaction, humor and happiness, it has been often asked whether training can improve it. Most coaching interventions try to enhance some aspect of EQ, usually under the name of social, interpersonal, or soft skills training. The underlying reasoning is that, whereas IQ is very hard to change, EQ can increase with deliberate practice and training. Although much of one’s EQ is made up by genetics and early childhood experiences that does not mean we cannot change. Realistically, long term improvements will require a great deal of dedication
and guidance. Everyone can change. But, only a few people are willing to try. It has been shown that good coaching programs do work. While no program can guarantee hundred percent changes, a well designed coaching intervention can improve at least on some components of EI. A certain amount of plasticity is of the social brain is acknowledged. After such training, it has been shown that people can become more pro-social, altruistic and compassionate. The benefits of EQ coaching have been reported to generalize even beyond the work place. While many ingredients have been recommended for a good coaching program, the most important aspect of effective EQ-coaching is giving people accurate feedback. It has also been shown that some techniques and coaches are more competent than others. Techniques like cognitive behavior therapy, relaxation training, meditation, and modeling have been used. Some people have been reported as more coachable than others. One-to-one coaching has been found to have long lasting effects than group based coaching.

An EI coaching program typically seeks to increase the participant skills in understanding, analyzing, expressing, and regulating their emotions. Each session may include short lectures, role playing exercises, discussions, and readings. For example, in a role playing exercise, two participants may pretend to be co-workers in the thick of a disagreement. After their interaction, the group can discuss how well they handled the disagreement. Then the participants can go through the exercise again to find more positive ways of expressing their emotions. Additional techniques like notes taking, diary keeping, self monitoring, correspondence training, and others can be used in such programs. A pretest and post test assessment before and after such a program can help evaluate the benefits accrued to the participants.
EI training programs usually have clear objectives, time frames, defined number of sessions, targeted audience, outlined activities and techniques, and even levels of intervention. It has been shown that training some components of EI can also increase the productivity of employees (Seligman, 1990), help them to manage stress, mental health and work performance (Hosseinian, Yazdi, Zahraie & Fathi-Ashtiani, 2008; Luskin, Aberman & DeLorenzo, 2005; Slaski & Cartwright, 2003).