DEVELOPMENT OF EMOTIONAL INTELLIGENCE SCALE FOR CHILDREN AND ITS RELATIONSHIP WITH THEIR ACADEMIC ACHIEVEMENT

UZMA SHAHEEN

Reg. 39-FSS/PHDPSY/F-14

DR. NAZIA IQBAL

Assistant Professor of Psychology

Department of Psychology

Faculty of Social Sciences

International Islamic University Islamabad

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UZMA SHAHEEN

Reg. 39-FSS/PHDPSY/F-14

Department of Psychology

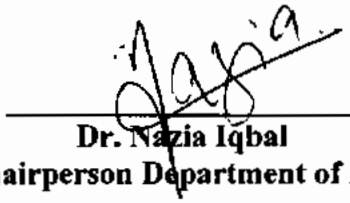
Faculty of Social Sciences

International Islamic University Islamabad

2022

Acceptance by the Viva Voce Committee

Dean Faculty of Social Sciences



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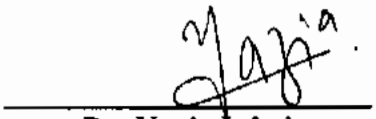
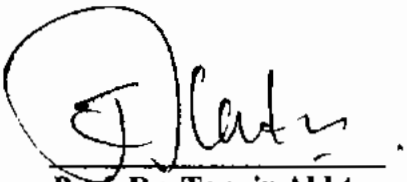


Dr. Nazia Iqbal
Supervisor



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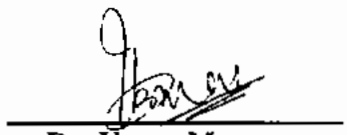

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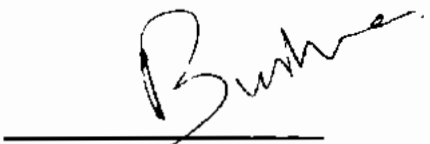

Dr. Bushra Hassan
Internal Examiner

DECLARATION

I, **Ms. UZMA SHAHEEN**, Registration No. **39-FSS/PHDPSY/F-14,** student of **PhD** in the subject of Psychology, session **2014-2021**, hereby declare that the matter printed in the thesis titled: "DEVELOPMENT OF EMOTIONAL INTELLIGENCE SCALE FOR CHILDREN AND ITS RELATIONSHIP WITH THEIR ACADEMIC ACHIEVEMENT" is my own work and has not been printed, published and submitted as research work, thesis or publication in any form in any University, Research Institution in Pakistan or abroad.

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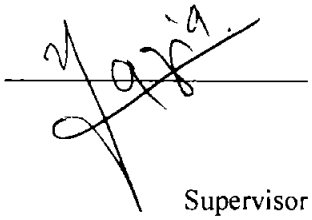
Certified that the research work contained in this thesis titled: **"DEVELOPMENT OF EMOTIONAL INTELLIGENCE SCALE FOR CHILDREN AND ITS RELATIONSHIP WITH THEIR ACADEMIC ACHIEVEMENT"**, has been carried out and completed by **Ms. UZMA SHAHEEN**, Registration No.**39-FSS/PHDPSY/F-14,** under my supervision.



Date

Supervisor

Associate Professor

Department of Psychology

International Islamic University Islamabad

Dedicated

TO

MY PARENTS & TEACHERS

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List of Abbreviations

EI	Emotional Intelligence
EIS	Emotional Intelligence Scale
EISC	Emotional Intelligence Scale for Children
AA	Academic Achievement
MI	Multiple Intelligence
MSCEIT	The Mayer- Salovey-Caruso Emotional Intelligence Test
SJT	Situational Judgment Test
ESI	Emotional and Social Intelligence
ECI	Emotional Competence Inventory
EFA	Exploratory Factor Analysis
SES	Socioeconomic status
KMO	Kaiser- Meyer-Olkin
FLX	Flexibility
ESA	Emotional Self Awareness
Happ	Happiness
SR	Self Regard
PS	Problem Solving
SRlt	Social Relations
ImpC	Impulse Control
STol	Stress Tolerance
Emp	Empathy
Ass	Assertiveness

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What else can be more pleasant than a dream coming true? Retrospectively, when I imagine the Day I visited International Islamic University Islamabad in connection with seeking admission in the Ph.D. program. It was such a phenomenal day of my career. The calm and quiet nature of the university was so fascinating. To add more to that first impression was the even more congenial academic atmosphere of the Psychology Department where even the first day didn't make me feel stranger. The professional and encouraging environment of the department is its success and biggest attraction for the students. All the faculty members support students in their academic and professional endeavors. It was sheer luck for me to have Dr. Nazia Iqbal as my Ph.D. supervisor whose tireless encouraging behavior made it all possible that today I feel proud of mentioning her in my acknowledgement. I pray her great expertise flourish much more in lighting further candles of knowledge. Let mention my parents, my departed mother in special whose invisible presence proved an impetus for this great work. My kids are worth praising for their innocent help by providing me leisure during all these days of research. All my family members tolerated patiently my preoccupation with my work. My dearest friends are specifically thanked for taking care of me when I was engaged with my thesis.

May all my, endeavor be helpful in bringing a positive change in the area I worked in.

Ameen.

Abstract

The present study was carried out to develop an indigenous scale of emotional intelligence for children and its relationship with their academic achievement. It was an exploratory research with a mixed method study approach. Bar- On model of social and emotional intelligence was followed in this study. Sample consisted of 694 (boys 355, girls 339) primary school students in the age range of 7-11 years (mean= 9.01 & SD= 1.42) were selected from different cities of the country through purposive sampling technique. The current research consisted of two different studies. Study I that was comprised of 4 different phases, pilot study, exploratory factor analysis, reliability analysis and validity assessment of the newly developed scale were done. Principal component analysis with Varimax rotation postulated 64 items with ten distinct factors. The scale correlated significantly with its subscales ranging from r= .62 to r= .30. The cronbach's alpha emerged to be .88 for the total scale and ranged from .69 to .94 for the sub scales. In study II, relationship between emotional intelligence and academic achievement of primary school students was assessed. The Pearson coefficient of correlation (.501, $p \leq .01$) showed that the two variables emotional intelligence and academic achievement correlate significantly. The correlation coefficient was significant on the subscales of self-regard, problem solving, social relations, impulse control, stress tolerance, empathy and assertiveness while no significant relationship was seen on the subscales of flexibility, emotional self- awareness and happiness. Emotional Intelligence Scale for Children (EISC) is reliable instrument measuring emotional intelligence based on 5- point likert scale (1= never, 2= rarely, 3= sometime, 4= often, 5= always). It is a useful tool for parents and teachers in assessing the emotional intelligence of children.

Keywords: Emotional Intelligence, Reliable, Primary schools, Indigenous, scale developmen

Chapter 1

Introduction

The twenty first century perspective of a successful individual is possession of high IQ along with the acquisition of social and emotional skills and competencies. Recent researches on educational outcomes have exhibited the fact that positive social behavior is of greater significance in nurturing higher achievements in academics (Blake et al., 2015). Since childhood, a child's knowledge of identifying, understanding and managing emotions is equally important as reading, writing and arithmetic abilities that ensures his success in education as well as other social areas. When emotions are not dealt with in a constructive way, it may disrupt the mind and body while emotions handled constructively results in positive interpersonal relationships, better academic performance and satisfaction from one self (Greenberg et al., 2003). While child is growing emotionally in his childhood, a key challenge for schools is therefore to focus on his cognitive abilities as well as his non-cognitive skills for success in his education, work and interpersonal relationships.

Therefore, today's challenge for educators and parents is to educate and raise children who are knowledgeable, caring, compassionate and adaptive in their environment. A child should be focused as a whole and he must learn beyond basic skills (Learning First Alliance, 2001). Hence, emotional intelligence can effectively form the largest applied areas of education. Therefore, emotional intelligence has acquired immense popularity over the last few decades (Bisquerra, 2009; Petrides, 2016).Therefore, emotional intelligence is indispensably needed factor for many positive outcomes in life (Schutte & Malouff, 2013). Researches have shown that these outcomes encompass Subjective well- being of individuals (Brackett & Mayer, 2003; Mayer & Warner, 2004; Schutte & Malouff, 2011), Psychological wellness (Martins et al., 2010) and academics. Although emotional intelligence is a popular concept, however, a

deeper understanding in the public and academic domains is still required.

Historical Background

Despite the current surge of interest in the concept of emotional intelligence, that has given rise to contemporary definitions and concepts, experts are of the opinion that emotional intelligence is a long studied concept, as English naturalist, Charles Robert Darwin in 1872 has discussed it in his valuable writings. It was recognized that Darwin's early writings of 1872 about "the importance of emotional expression for the survival and adaptation" of an individual to one's own environment have influenced the present day theories of emotional intelligence (Bar-On, 2005).

EI as Social Intelligence

Thorndike in 1920 claimed that all human beings have various intelligences and social intelligence is one of this which is the capability of understanding and coping with people as well as effective handling of social interactions (Bar- On, 2006, Reshidi, 2019). This definition implies the ability to perceive internal states of others and ourselves and to act accordingly.

EI as Non-intellective factors

David Wechsler a psychologist in 1938, designed a well-known measure of cognitive intelligence in which two subscales of picture arrangement and comprehension were included that seem to assess facets of social intelligence (Wechsler, 1940). David Wechsler in 1939 outlined the effect of non-intellective aspects on intelligent behavior that seems as a reference to the construct of emotional intelligence (Wechsler, 1943, Darian & Seif, 2013).

EI as Cognitive characteristics

The construct of Alexithymia has a connection with social emotional intelligence on the pathological end. Alexithymia is characterized as a personality trait in which an individual finds difficulty in the identification and description of emotions in oneself and in other individuals. Dysfunctional emotional awareness, weak social relations and poor interpersonal relations are marked features of this construct (Hemmati, Rezapur, Hashemi & Mohammadi, 2013).

EI as Psychological mindedness

Psychological mindedness is a broad concept that includes not only the inclination to acquire knowledge of the viable meanings and sources of both the internal and external incidents but also the capability to search for inner sources rather than looking at the outer environmental sources, hence the concept of the association in thought pattern, feelings and course of actions with the immediate environment is met (McCallum & Piper, 2000). Hence, the concept of ESI presented by Bar-On (1997) can be linked to the important construct of psychological mindedness.

EI as Interpersonal intelligence

Theory of Multiple Intelligences (MI) was introduced by Psychologist Howard Gardner in 1983. According to him, various mental tests that define the concept of intelligence were narrow that neither explained the actual aspects of intelligence indicate the arenas in which an individual can prosper. Gardner further argue, that there are multiple intelligences rather than only one kind of general intelligence, and each type of intelligence is part of an independent system in the brain. Multiple Intelligences (MI) theory presents eight distinct types of intelligence (Drigas & Papoutsi, 2018; Gardner, 1989; Morgan, 1996).

EI as skills, competencies and facilitators

The concept of emotional intelligence is heavily influenced by the way early psychologists have defined social intelligence. Reuven Bar-on has discussed the concept of non- cognitive intelligence in early 1980's. The foundation of model of social emotional competence was laid on EQ ("Emotional Quotient"), term coined by Reuven Bar-on in 1988 (Bar- On, 2006).

Bar-on theorized that one of the factors for psychological well - being is effective emotional and social functioning. The construct of emotional-social intelligence could be explained in a better way and more information will be gained about emotionally and socially intelligent behavior if the instrument is applied on a large and diverse population. The respondent's emotional and social functioning is considered effective if he scores average to above average on the EQ-i. The high score is indicative of managing daily life demands and challenges effectively. Whereas, low EQ score indicate an incapability of an individual in dealing with daily demands and the probability of various affective, social and behavioral problems. The empirical studies over the past two decades have resulted in a continuous modification of the construct (Bar- On, 2006).

EI as emotion-related abilities

The first academic article of Emotional intelligence (EI) by Salovey and Mayer in 1990 caught the public interest. Mayer and Salovey (1997) presented the four- branch hierarchical ability model. The ability model of emotion consists of four main branches that involve processing of information at a low- level to complex information processing for attaining personal goals. EI has been introduced as a kind of social intelligence that is concerned with the ability of an individual to monitor his own feelings as well as feelings of others to differentiate among feelings and the use of these details to guide individual's thinking and actions (Salovey and Mayer, 1990). The ability emotional intelligence model of Salovey and

Mayer is comprised of four major dimensions: emotional perception (perception of one's own emotions and emotions of others), emotional understanding (comprehending emotional information, understanding the process of how emotions integrate and change with time, and to acknowledge emotional meanings), emotional facilitation (generation, use, and feeling of emotions for communicating feelings), and emotional regulation (to be open to one's own feelings, and to be able to monitor one's feelings and manage emotions for promoting understanding and one's personal growth) (Lipson, 2020).

EI as a constellation of non- intellective factors, attributes, and motivational factors

Daniel Goleman, a psychologist and science journalist brought the notion of "EI" to prominence as an alternative to more traditional measures of IQ with his 1995 mega-best-selling book "Emotional Intelligence: Why It Can Matter More Than IQ" (Cherniss, 2010). It is a meta-ability that regulates and affects the manner and the efficiency of an individual to use other capabilities, such as educational intelligence (Parker, Saklofske, Wood & Collin, 2009).

Therefore, a Mixed model of emotional intelligence was introduced by Goleman, which is known as emotional intelligence competencies model. This model defines EI as learned abilities. It is based on the notion that an individual has inborn particular degree of EI that can be enhanced and improved through proficient training programs (Boyatzis, Goleman & Rhee, 2000; Goleman, 1998). This model encompasses a wide- ranging group of basic skills and abilities comprising of four important components that include awareness of self, management of self, awareness of surroundings and managing relations. Goleman has given a definition of emotional intelligence as the ability to identify and manage one's own emotions and that of others' emotions, as an essential part of personal and social competencies that determines the way to self-management and management of relationships (Goleman, 2001).

However, the inspiring notions and assertions regarding the significance of the concept of emotional intelligence were deficient of practical evidence to understand man's behavior as well as individual differences among people (Davies, Stankov, & Roberts, 1998) elicited critiques and advanced research regarding the construct of emotional intelligence. The conceptualization of EI encompasses important psychological constructs such as personality facets, cognition, temperament, processing of emotion information, and regulation of emotions that has led to an agreement that emotional intelligence may be regarded as multifaceted and can be viewed from various directions (Austin, Saklofske, & Egan, 2005; Stough, Saklofske, & Parker, 2009, Roberts, & Matthews, 2008).

From Darwin to the present, most descriptions, definitions and conceptualizations of emotional-social intelligence have included one or more of the following key components: (i) appropriate recognition, understanding and exhibition of emotions (ii) empathy and social interactions (iii) coping with emotions (iv) adaptability and problem solving (v) self-motivation (Bar- on, 2006).

This is aptly held that both psychology and emotional intelligence have wider background and a brief history. Back from the Darwin's theoretical notion of "emotional expression for survival and adaptation" in 1872 till the Thorndike's concept relating to social intelligence in 1920, it appears that yet another kind of intelligence notwithstanding the conventionally established IQ achievements in the life of an individual (Bar- on, 2005).

Consequently, various research groups carried out research activity by engendering respective theories of examining EI, instead of relying on the already present research. It was till 1990's it could not be unanimously agreed upon as what way to give proper definition and measurement to the construct of emotional intelligence.

In the area of EI, researchers have observed the variety of models of emotional intelligence to

be strong markers of a comparatively novel research domain (Austin, Parker, Petrides, & Saklofske,2008; Petrides, Mikolajczak, Mavroveli, Sanchez-Ruiz, Furnham, & González, 2016).

Models of Emotional Intelligence

Mixed model theories of EI and Ability model theories of EI surfaced consequently.

Emotionally intelligent behavior according to the mix model concept, includes motivational factors, character characteristics and abilities related to emotion (Bar-On, 2006; Petrides, Pita, & Kokkinaki, 2007).

On the other hand, EI has been conceptualized by the ability model as an intellective ability of the same nature as the verbal or quantitative ability, in which rather than words or numbers, emotions are its content area (MacCann, Joseph, Newman, & Roberts, 2014).

Ability Model of EI (Mayer and Salovey, 1997): A Four-Branch Hierarchical Model of Emotional Skills

A single theoretical model, descending the constituents of EI, has been agreed upon. Mayer and Salovey (1997) were the pioneers of the hierarchical four- branch model. According to this model, personal targets can be achieved through categorical layers intricacies from lower category details processing to intentional use of emotional particulars. The four branches are categorized as: (a) accurate perception of emotions, (b) understanding of emotions, (c) facilitation in decision-making by the use of emotions, and (d) management of emotions for up- regulation of positive emotions as well as down- regulation of negative emotion.

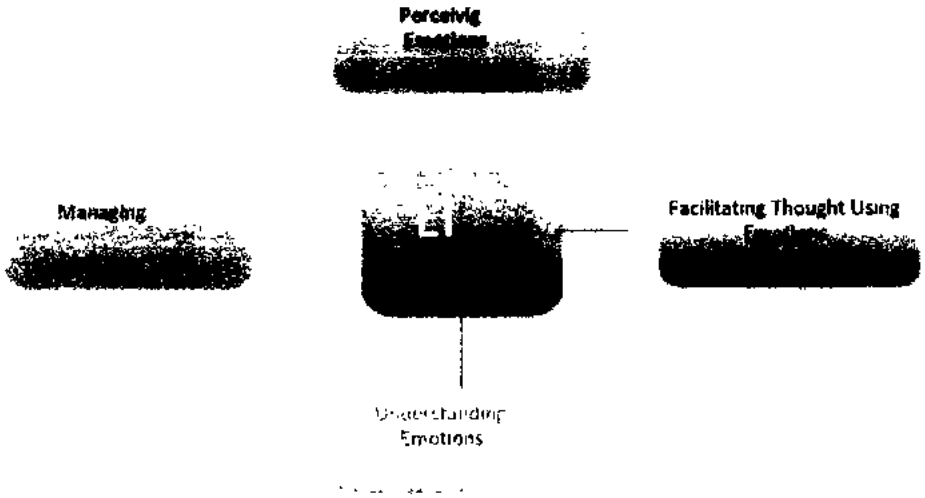

Figure 1: The Mayer and Salovey (1997) four-branch model of emotional intelligence (EI) abilities

Emotion perception: It is defined as the ability to accurately recognize the emotion related material in facial expressions, auditory content and exhibition of emotions (Mayer, Caruso, & Salovey, 2016). On the basis of theoretical demarcation, perception of emotion comprise of many interconnected potentials such as (a) the capacity to recognize emotions in outwardly stimuli, (b) the power to perceive emotions of oneself (i.e., internal stimuli), (c) to be able to

exhibit one- self's emotions precisely, (d) the potential of discriminating between genuine expression of emotions and illusive involuntary expressions, and (e) An acquired skill of how to express one's emotions in different cultures backgrounds (Mayer & Salovey, 1997).

Emotion facilitation:

It shows that in intellective tasks or in decision- making, emotional information provides important input or guideline in crucial intellective tasks and decisions. It is worth mentioning that two key points are being involved both at the theoretical and quantificational levels as: (a) the use of existing emotions for determining selection of a task or the ways to access tasks, and (b) engendering emotions afresh to help magnification for a certain task.

Emotion understanding:

It involves an individual's knowledge base regarding processes of emotions and the emotion itself (Mayer et al., 2001). The below mentioned kinds of emotion are encompassed here: the lexicon related to emotion terms, the progenitors and resultants of emotions, the manner in which emotions come together that may vary with the passage of time. The most probable outcome of circumstances on the emotions of an individual at the present or in the time to come as well is included (Mayer et al., 2016; Mayer & Salovey, 1997). It is an area specific knowledge regarding the constituent area of an individual's emotions. There exists the strongest links between understanding of emotion and the conventional intellective capacities of all the four off- shoots of EI, with the meta-analytic estimates that range from " .39 to .42" (Roberts, Schulze, & MacCann, 2008; Joseph & Newman, 2010; MacCann, 2010; Olderbak, Semmler, & Doebler, 2019).

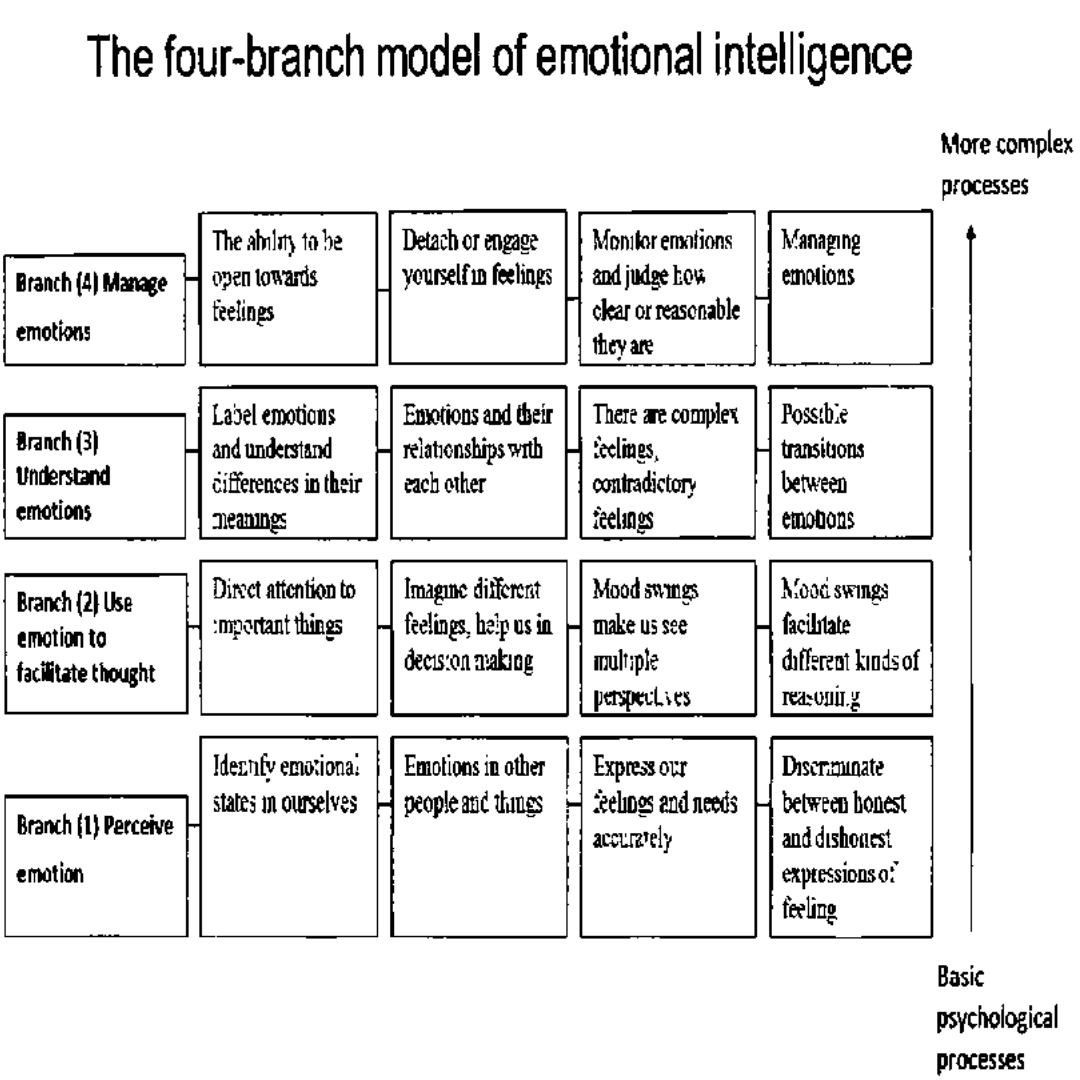

Figure 2 "Modified Model of the four-branch model of EI. Adapted from Mayer and Salovey (1997)"

Emotion management

It is an individual's capacity of emotional management by boosting pleasant emotional content and calming unpleasant emotional material to get their goals (Mayer et al., 2001, 2016).

It is observed that Emotion management has many essential constituents. In the first place, this branch is involved in intrinsic and extrinsic emotion regulation as it manages both an individual's own and others' emotions termed as the "process model of emotion regulation" (Gross, 2008; Gross & Thompson, 2007).

In the second place, this branch involves both (a) knowledge of the management of emotion (b) emotion management's metacognitive strategies (Mayer et al., 2016).

In the third place an individual's management of emotions regarding personal goals.

However, the four major branches that remains the basis of present EI ability models, and their explanation assists in the comprehension of the theoretical domains of content, included in the perspective with its basis on the ability of EI (Mayer et al., 2016).

Ability Measures of EI

The Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT)

The Mayer- Salovey-Caruso Emotional Intelligence Test (MSCEIT; Mayer, Salovey, & Caruso, 2002;Mayer,Salovey,Caruso,&Sitarenios,2003) is the measurement scale that is based on the four branches of hierarchal EI Ability model (Mayer& Salovey, 1997). MSCEIT is a measure based on performance, which gives an account of the complete understanding of a person's EI by evaluating the manner through which an individual perform tasks and solve problems related to emotions. A total of 141 items that are split up into eight different types

of tasks are applied for the assessment of four branches of the EI model (Freeland, Terry, & Rodgers, 2008; Mayer, Caruso, & Salovey, 2016;Mayer & Salovey, 1997).

First branch of the model is perceiving emotions that is assessed with the help of with the help of two tasks related to emotional perception:

(i) Task of the face that includes emotion identification shown in the facial expressions in photographs (Papadogiannis, Logan, & Sitarenios, 2009).

(ii) Task related to pictures where respondents are asked to recognize the expressions/ emotions portrayed in the pictures of abstract art and landscapes. The participants need to rate the pictures on a 1-5 scale. They can rate the picture to the extent to which various emotions are expressed in concerned stimulus (Mayer, Caruso, & Salovey, 1999; Papadogiannis et al., 2009).

The second branch of the model comprises of the task based on sensations included comparing the already present emotions to various sensations, like light sensation, color sensation and the temperature sensation (Mayer & Salovey, 1997; Mayer, Salovey, & Caruso, 2002; Papadogiannis et al., 2009).

The third branch is about the understanding of emotions. It is assessed through two tests. It is related to the comprehension of the emotion's connection and change in emotions as time and situation change (Fiori, Vesely- Mailefer, 2018; Rivers, Brackett, Salovey, & Mayer, 2007). Branch three is assessed with the help of two different tests.

The first one is the test of change that includes questions regarding the connection of different situation to emotions. It demonstrates how emotions can alter and evolve over time.

The second test is the blend test, which is based on questions regarding new emotions formation through the interaction and combination of different emotions.

The fourth branch is about the management of emotion. The two situational judgment test (SJT), are used to assess the managing emotions by presenting real-life emotional and social situations through multiple vignettes.

The fourth branch of the model is management of emotion. Emotion management test includes a person's judgments about strategies for regulation of emotions in provided scenarios.

The test of emotional relations includes an individual's judgment regarding the most suitable strategies to manage different emotions within his own social circle and relations. The rest takers then rate the efficacy of different strategies on five points ranging from "mild 1= least ineffective to 05= very effective" (Fiori, Vesely-Maillefer, 2018; Rivers, Brackett, Salovey, & Mayer, 2007).The assessment of MSCEIT yields a total of EI points, the experiential two EI area scores as well as the four branch scores (Salovey & Grewal, 2005).

MSCEIT is a commercially available test for the measurement of ability EI for a long period despite the availability of other standardized instruments for the assessment of peculiar EI abilities because MSCEIT is a powerful test covering all the four branches of ability EI for assessment. Another dominant feature of MSCEIT is its availability for children (MSCEIT-YRV; Mayer, Salovey, & Caruso,2005; Rivers, Brackett, Reyes, Mayer, Caruso, & Salovey,2012) that can very well measure the children and adolescent population ranging from 10- 17 years of age with the age appropriate items.

The MSCEIT has also several limitations psychometrically, which urged the researchers for developing an alternative for assessment, develop non-commercial measurement tools and to interpolate findings for research purpose (Fiori, Antonietti, Mikolajczak, Luminet, Hansenne & Rossier, 2014; Fiori & Antonakis, 2011; Maul, 2012; Rossen, Kranzler, & Algina, 2008).

Tests of Emotion Understanding and Management

Mac-Cann and Roberts (2008) introduced two ability tests i.e the situational test of emotional understandings (STEU) and the second is Situational Test of Emotion Management (STEM).

It was introduced as a second generation standardized ability tests for EL. The formats of STEM and STEU are identical to the SJT format of branch of managing emotions of the MSCEIT, in which the participants are first shown short vignettes representing real life social and emotion related situations. The respondent is then asked to choose from a list comprised of five options the most effective course of action in managing emotions in specific situations (STEM).

Short forms of the STEU and STEM (18-19) are available for only research purpose that do not require a comprehensive assessment of the construct (Allen, Rahman, Weissman, Mac Cann, Lewis, & Roberts, 2015). The STEM youth version consists of 11 items that is adapted for children age 9-11 years(STEM-Y; MacCann, Wang, Matthews, & Roberts, 2010).

Tests of Emotion Perception

Tests measuring perceptual accuracy for recognition of emotions were available even before the introduction of EI. Although not recognized as the tests of EI, it assesses the branch related to perceiving emotion of the ability EI scale (Fiori, Vesely-Maillefer, 2018). The most commonly used among these tests are as:

(i) "Diagnostic Analysis of Non-Verbal Accuracy" (DANVA; Nowicki and Duke 1994)

(ii) "The profile of Non-Verbal sensitivity" (PONS, Rosenthal. Hall, DiMatteo, Rogers and Archers 1979).

(iii) "The Japanese and Caucasian brief affect recognition test" (JACBART Matsumoto et al, 2000).

Similar to the MSCEIT face task, in these tests, the test taker has to identify the emotion expressed in a stimulus depicting emotions of another individual. The rating-scale follows a multiple-choice response pattern, in which the respondent has to choose a response that shows an emotion that best matches an associated stimulus (MacCann, Lievens, Libbrecht, & Roberts, 2016).

Self-rated ability EI measures:

There are many measurement tools that make use of rating-scales for the assessment of self-rated ability EI besides the ability-based measures. The Assessing Emotions Scale (AES; Schutte, Malouff, Hall, Haggerty, Cooper, Golden & Liane, 1998), 33-item scale is one of the self-rated ability EI. The AES follows the four-branch hierarchical model of ability emotional intelligence.

One other measure of EI is "Wong's Emotional Intelligence Scale" (WEIS), also follows the early definition containing four subscales, assessing perception of an individual's own emotions, perception of other individual's emotions, use of emotional information, and management of emotions, however, it has not included emotion understanding (Law, Wong, & Song, 2004). Another rating-scale developed according to the four-branch ability model is named as the "Self-Rated Emotional Intelligence Scale". It consists of 19 items to assess an individual on five different subscales; First is perception of emotions, second is use of emotions, third is understanding of emotions, fourth is management of an individual's own emotions, and fifth one is management of other people's emotions (SREIS; Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006).

Mixed Models of Emotional Intelligence

Though EI has several mixed models; however three broader conceptualizations are

1. "Goleman's Model of emotional competence" (Goleman, 1998)
2. "Bar-On's Model of emotional and social competence" (Bar-On, 2006)
3. "Petrides and Furnham's Model of trait emotional intelligence" (Petrides, Perez-Gonzalez, & Furnham, 2007; Petrides, Pita, & Kokkinaki, 2007)

1. Goleman's model of emotional competence

The concept and idea of emotional competence was brought forward to the people by a book named "Emotional Intelligence: why it can matter more than IQ, written by Daniel Goleman (Goleman 1998).

Goleman asserted that a successful life is heavily dependent on emotional intelligence as compared to conventional intelligence known as IQ. According to him, a harmonize connection between emotions and thought is important in order to function well. He claimed that human beings have "two brains" one deals with logic while the other deals with emotions (IQ and EI), and both are significant for success in life. But, his claim is that IQ has little role in an individual's emotional life. Even a person having high IQ will do poorly in his life if he just follow emotional impulses and unable to use and manage emotions. It is therefore considered important to have high IQ as well as high EI, which according to Goleman consists of a constellation of different traits that enable an individual to utilize emotions intelligently (Goleman, 1995).

Gardner's concept of multiple intelligences had a strong impact on the Goleman's theory. According to Goleman, personal intelligence that included intrapersonal and interpersonal intelligence had a major role in EI. Goleman's point of view was that Gardner did not give much importance to feelings but he was focused on the role of cognitions about feeling

(Goleman, 2000). Goleman believed that Salovey worked to bring emotions and intelligence together rather than viewing the two constructs as contradictory, hence, he begun to discover the new domain of EI. Gardner's personal intelligences inspired Salovey because he has used the component of personal intelligence given by Gardner in his own conceptualization of EI that laid the foundation of his five domains of the model (Goleman, 1995, p. 43). That led to Goleman's five major domains of EI that was founded on the preliminary definition of emotional intelligence of Salovey and Mayer (1990) that include (1) Knowledge of one's own emotions (2) Management of emotions of self (3) Motivating one's self (4) Recognition of emotions in others (5) Handling relationships.

Goleman's first model of emotional intelligence encompassed the five major domains explained above (1995). Goleman's work was mainly focused on leadership and the traits that lead to an exemplary leader. Further, he believed that emotional intelligence provides the capacity to learn pragmatic skills. EI form the grounds for emotional competence and is learned ability providing an impetus for effective work performance. EI abilities provide base for the emotional competencies that are split into groups (Boyatzis, Goleman, & Rhee, 2000). In the book "*Working with Emotional Intelligence*" by Goleman (1998), a model of EI has been presented that encompassed 25 competencies under five basic clusters that were labeled the same way as the five major domains in Goleman's model of 1995 (Goleman, 1998).

Goleman and colleagues have elucidated definition of emotional intelligence as the competency of an individual to be self- aware, manage, socially aware and skilled socially to cope effectively with the environment (Boyatzis et al., 2000). According to them, distinct capabilities must be considered properly in studying EI and can be analyzed fact fully for proceeding ahead in various life domains (Boyatzis et al., 2000).

The Emotional Competence Inventory (ECI)

An assessment instrument developed by Goleman and his colleagues to measure 25 different competencies is known as the "Emotional Competence Inventory" (ECI). It is a multi-rater assessment tool often referred to as a 360-degree assessment tool. It is comprised of both self-rating procedure andTotal others'rating procedure. So, an individual can test himself and can be rated by peers and supervisors as well in the different emotional competencies (Sala, 2002).

A new version known as the ECI 2.0 consists of 18 competencies. It has seventy- two items, with four items for every competence. A 6-point likert scale response pattern from 1 (never) to 6 (don't know) was adopted, (Sala, 2002; Boyatzis & Sala, 2004).

The table below shows the 18 major competencies as explained in the technical manual of the inventory (Hay Group, 2005).

Table 1

Goleman's emotional intelligence framework

"The four clusters competencies:	**(18 competencies)**
Self-awareness cluster	Emotional self-awareness
	accurate self-assessment
	self-confidence
Self-management cluster	emotional self-control
	transparency
	adaptability
	achievement
	initiative
	optimism
Social awareness cluster	Empathy
	organizational awareness
	service orientation
	developing others
Social skills cluster (relationship management)	inspirational leadership
	influence
	change catalyst
	conflict management
	teamwork & collaboration"

Source. Adapted from Hay Group. (2005, November). Emotional Competence Inventory (ECI) technical manual. Boston. Steven B. Wolff.

2. Reuven Bar-On's Model of Emotional and Social Intelligence (ESI)

Reuven Bar-On termed his model as "Bar-On model of emotional-social intelligence" (Bar-On, 2000, 2006). This model is comprehensive as it gives an enlarged perspective of emotional intelligence by combining the social and emotional determinants under the umbrella of emotional intelligence. Bar- On emphasized that the combination of these skills and competencies helps an individual in self- management, social relations and managing daily life demands (Bar-On, 2007).

The Emotional Quotient Inventory (EQ-i)

An assessment tool was developed by him known as the Emotional Quotient Inventory (EQ-i) that was basically an experimental assessment tool to test the emotional and social functioning of an individual to assess emotionally and socially competent behavior. He started developing a concept of emotional and social functioning in his unpublished doctoral work in early part of 1980s. The Emotional Quotient Inventory (Bar-On, 1997) was developed to assess the level of social and emotional functioning.

3. Trait emotional intelligence Model

Petrides (2001) brought to light the theory of Trait EI theory and discussed the major differences that existed between the trait emotional intelligence model and ability emotional intelligence model. According to him, the trait EI is mainly concerned with emotional perceptions of an individual measured with the help of different rating scales as well as questionnaires (Petridesetal.,2007), while the ability EI is concerned with the emotion-related cognitive and intellectual abilities (Mayer & Salovey, 1997).

Trait EI has fifteen major facets belonging to the ability model of emotion, Bar-On model of emotional competence and the Goleman's model (Pita, et al., 2007; Petrides, 2009). There are four ability aspects of the model namely (a) accurate perception of emotions in one own self as well as other people, (b) clear expression and communication of emotions (c) management

of emotions of other people, and (d) Emotional regulation of self. The other non- ability aspects are adaptation, assertiveness, impulse control, Maintenance of personal relationships, self- esteem, motivating oneself, social awareness, management of stress, optimism, empathy, and happiness (Petrides, 2009).

Trait emotional Intelligence Questionnaire (TEIQue)

Trait Emotional Intelligence Questionnaire is based on the trait emotional intelligence model. It is available in short form, child form, an adolescent form, as well as child and adolescent short forms (TEIQue; Petrides, Pita, et al., 2007).

Children and Adolescents Trait EI Measures

The most widely used trait EI measures that are used by researchers with children and adolescents are:

1. Assessing Emotions Scale (AES), (Schutte, Malouff, & Bhullar, 2009)

2. Youth version of the Emotional Quotient Inventory (EQ-i YV) (Wood, Parker, & Keefer, 2009)

3. Adolescent form of Trait Emotional Intelligence Questionnaire, (TEIQue–AF) (Petrides, 2009)

4. Child form of the Trait Emotional Intelligence Questionnaire (TEIQue–CF) (Petrides, 2009).

Although, there is some overlap in content matter and format patterns, these measures follow different theoretical models and operationalize the trait of EI differently. However, these four measures have features of the trait emotional intelligence as well as self-report response format (Petrides, Sanchez-Ruiz, Siegling, Saklofske & Mavroveli, 2018).

Comparison of the EI Models

Notwithstanding the differences in viewpoints of EI held by the different researchers, the models share similarities as well. In a sense, Salovey and Mayer (1990; 2000; 2004) initiated the modern day debate and research on EI. Their basic premise is that emotions and intellectual activities mutually influence each other and that emotions are of value in cognitive activities (Goleman, 2000). This viewpoint is shared by Goleman (1998), Pertrides (2010), and Petrides et al. (2007). In addition, the researchers view EI as being able to recognize, assess, manage, and verbalize emotions with accuracy (Brackett, Rivers, Shiffman, Lerner, and Salovey, 2006).

Despite the uniform starting point the three models—ability, trait, and mixed—have sharp differences. Emotional intelligence is defined and described in different ways by each model. Mayer et al. (2000) stated that emotional intelligence is the capability like intellectual ability. According to this viewpoint, a measurement tool of emotional intelligence was developed that was a performance scale like different intelligence tests. A new version known as the "Mayer–Salovey–Caruso Emotional Intelligence Test (MSCEIT, Version 2.0)," was developed after "The Multifactor Emotional Intelligence Scale (MEIS)" while both using the same tasks to measure emotional intelligence (Miao, Humphrey, and Qian, 2017). The MSCEIT is known as a robust test of emotional intelligence despite difficulty in its scoring (Miao et al., 2017). Although Goleman (1998) developed his views on EI after reading the original article of Salovey and Mayers (1990) provided the basis for the Goleman's model (1998), however, he revisited the concept of emotional intelligence and included important factors of motivation and empathy. Goleman's model was named as the mixed model for adopting this approach (Salovey et al., 2002). This led to Bar-On's (1997) inclusion of personality traits like assertiveness, self-esteem and independence to the Goleman's work. However, this inclusion of personality traits are not in line with the original definition of

Salovey and Mayer, as they debated that the mixed model include several factors while, emotional intelligence model is basically concerned with the association of intellective and emotional elements and not linked to personality aspects (Mayer et al., 2000). Where Salovey and Mayer regarded emotional intelligence as a type of intelligence, Reuven Bar-On showed his keen interest in personality aspects and psychological well- being that influenced his opinion regarding the construct of emotional intelligence, Daniel Goleman and Boyatzis debated on the aspects instrumental for success in work settings (Druskat, Sala, and Mount, 2006). Different assessment tools are based on the description and conceptualizations of these different models.

Theoretical Framework

The Bar-On model of emotional-social intelligence

Reuven Bar-On has discussed the concept of emotional intelligence in depth that resulted in the emotional and social intelligence (ESI), as he argued that only than the construct could be comprehensively defined. Therefore, Bar-On has termed his model as the Bar – On model of emotional – social intelligence (Bar – On, 2000, 2006). While he was working on his doctoral dissertation in 1980's on the emotional and social functioning, he came up this idea of ESI and EQ-i that was an assessment tool published in 1997 (Bar- On, 2000).

EQ-i was developed for the assessment of the presumed factors that Bar- On believed was part of emotional and social intelligence. Reuven Bar-On (Bar-On, 2000, pp. 365-366) has described the different subscales of the emotional quotient inventory in the following manner.

Self Regard (SR): It is an individual's ability of knowing, understanding, accepting, and respecting one's own self.

Emotional Self-awareness (ES): It is an individual's ability of self -recognition and understanding his own emotions.

Assertiveness (AS): It is an individual's ability of expressing his own feelings, belief system, and thought patterns, and the ability of defending his rights in a constructive way.

Independence (IN): It is an individual's ability of self-directing and self-controlling thinking pattern as well as an individual's action plan to achieve emotional independence.

Self-Actualization (SA): It is an individual's ability of realizing his capacity and the ability of doing according to will, gets satisfaction from it, and is capable of doing;

Empathy (EM): It is an individual's ability to be aware of, understand, and appreciate the feelings of other people.

Social Responsibility (RE): It is an individual's ability to remain as a harmonious, positive and helpful figure of the social group that he belongs to.

Interpersonal Relationship (IR): It is an individual's potential of paving and sustaining relationships characterizing emotional closeness, intimacy, offering and accepting affection.

Stress Tolerance (ST): It is an individual's ability to fight against negative circumstances, unpleasant situations, and inviolable emotions without "falling apart" by rigorously and emphatically managing stress.

Impulse Control (IC): It is an individual's ability to withstand or hold his impulse, desire or urge to act, and self- control of emotions;

Reality Testing (RT): It is an individual's ability of to gauge the compatibility between internal, personal and subjective experience with the outer, extrinsic and objective stimulus.

Flexibility (FL): It is an individual's ability to regulate his feelings, thought pattern, and actions according to changing circumstances and environment.

Problem Solving (PS): It is an individual's ability of identification and definition of his problems related to his personal and social life and to search for generation and implementation of possibly productive outcomes.

Optimism (OP): It is an individual's ability "to look at the brighter side of life" and to sustain positive thinking despite hardships of life.

Happiness (HA): It is an individual's ability to be contended with life, to rejoice, to show one's positive emotions and to enjoy".

Emotional Quotient Inventory (EQ-i)

High scores on the EQ-i is indicative of an individual's effective emotional and social functioning. The lower the scores, the poorer the emotional and social functioning and problematic is coping with the environment. Low scores on certain subscales are indicative of poor functioning, the EQ-i is comprised of some salient subscales such as: self- regard, emotional self awareness, assertiveness, independence, self- actualization, empathy, social responsibility, interpersonal relationship, stress tolerance, problem-solving, flexibility, impulse control, reality testing, optimism and happiness (Bar-On, 2000).

Table 2

The Fifteen Composite Scales of Emotional and Social Intelligence Scale by Bar-On (2000)

" The five composite scales:	The fifteen subscales:
Intrapersonal EQ	self-regard (SR)
	emotional self-awareness (ES)
	assertiveness (AS)
	independence (IN)
	self-actualization (SA)
Interpersonal EQ	empathy (EM)
	social responsibility (RE)
	interpersonal relationship (IR)
Stress Management EQ	stress tolerance (ST)
	impulse control (IC)
Adaptability EQ	reality-testing (RT)
	flexibility (FL)
	problem-solving (PS)
General Mood EQ	optimism (OP)
	happiness (HA)"

Source Adapted from Bar- On (2000)

The normative sample of EQ-i was North American population and it had representative people belonging from different age groups, ethnic groups, socioeconomic status and education (Bar-On, 2000).

Age differences in an individual's emotional and social intelligence domains were found in a sample of approximately 3,800 when assessed with EQ-i. It was seen that the scores increased with increasing age with the highest mean scores in people who were in their late forties and early fifties. Bar-On has explained it that individuals attain the peak of emotional and social intelligence in their fifth decade of life. As far as, gender differences are concerned, no significant differences were seen in the total scores of an individual on EQ-i. However, some gender differences were seen in the scores on a few subscales. The scores on the interpersonal scale were high for women, similarly, high scores on the intrapersonal scale were found for men (Bar-On, 2000).

The North American sample consisting of around 4000 individuals, undergone through exploratory factor analysis (EFA) and two confirmatory factor analyses (CFA) as well to determine the final factor structure (Bar-On, 2000). Consequently, thirteen empirical factors emerged by exploratory factor analysis because some of the subscales were highly correlated to be distinguished into separate factors. Confirmatory factor analyses resulted in the exclusion of some other similar factors. As a result, a ten-factor structure surfaced that was fit from empirical as well as theoretical point of view (Bar- on 2000). Five subscales were excluded from the main scale were considered as facilitators of emotional and social intelligence.

The ten factors of "emotional and social intelligence scale are: (1) self-regard, (2) interpersonal relationship, (3) impulse control, (4) problem solving, (5) emotional self-awareness, (6) flexibility, (7) reality testing, (8) stress tolerance, (9) assertiveness, and (10) empathy." (Bar-On, 2000, p. 372). Whereas "the five facilitators are (1) independence, (2) self-actualization, (3) social responsibility, (4) optimism, and (5) happiness." (Bar-On, 2000). Reuven Bar-On and his group researchers were involved in research for the validation of the EQ-i, and the ten factors as well as the five facilitators are compared to other assessment

tools that measure similar constructs, to see the validity of EQ-i. EQ-i appears to assess the capability of an individual to know, understand, control, as well as to express emotions as it has an association with other assessment tools that are designed to assess similar constructs and traits (Bar-On, 2000).

The conceptual framework has study variables of emotional intelligence and academic achievement. The anticipated correlation between these variables was also shown where a student's academic achievement, might be influenced by his level of EI. A student who has high emotional intelligence is likely to have high emotional coping skills; this student is likely to be a high academic achiever. On the contrary, a student who has low emotional intelligence is likely to have poor emotional coping skills. Gender, age as well as socioeconomic status class and type of school are likely to influence the relationship between the variables.

Academic Achievement

Considerable research studies are available pertaining to variables that predict the academic performance of students. Many parties have been concerned with the study of these variables including students in various learning institutions ranging from a low level such as pre-school students to students of high levels such as university. Researchers (Kudari, 2016; Kapur, 2018; Maina, 2010) who were working to find variables linked with academic performance have explored a range of factors such as, social behavior, students' IQ, socio economic status, academic self –concept, motivation, learning strategies, peer-relationship, teacher-student relationship, parental involvement, reduced community support, mismanagement and common absenteeism in teachers and students', discipline and personality as pivotal to academic performance in most schools. Environmental factors effecting achievement are seen as major sources by researchers in the domain of social behavior (Kudari, 2016), while other researchers look at the personality of an individual as a major variable. They are of the

opinion that academic performance is effected by an individual's self- perception (Maina, 2010). Some researchers (Kudari, 2016; Srinivas, & Venkatkrishna, 2016) maintain that the comparison of underachievers and high achievers show that underachievers face a number of personal problems. Such individuals are highly apprehensive, self-deprecating, over defensive in authoritative environment; have feelings of rejection, and usually set goals that are not realistic. Availability of resources and school-related factors has also been associated with poor academic performance among students (Maganga, 2016).

To measure academic performance, Perera and Di Giacomo in 2013 has shown some of the indicators that are commonly used: "(a) Grade Performance Academic (GPA), (b) Achievement Test (AT), (c) Grade Average (GA), (d) Academic Achievement (AA), (e) Standard Assessment Test (SAT), and (e) Teacher Ratings Academic (TRA)". The predictors of academic performance that have been focused recently in education are intelligence, intelligence quotient, or intellective abilities. Consequently, an extensive body of research literature has been accumulated on the assessment of IQ (Ritchie and Tucker-Drob, 2018). Furthermore, some other non-cognitive competencies and personal skills are assumed to have an affect on academic achievement (Furnham et al., 2009). Presently, research studies are exploring the role of non-intellective factors that may predict academic performance, which needs comprehensive academic models integrating personal as well as contextual components (Gutman & Schoon, 2013).

Academic achievement is thought to be the result of cognitive intelligence even today. This misconception of IQ as the sole predictor of academic success has positively proved itself until now. Cherry, Fletcher, and Sullivan (2018) noted that although IQ was thought to be a major contributing factor for an individual's success in his life but practically an individual's emotional intelligence has a role in life success. New researches in the field of emotional intelligence have however, shown that IQ alone cannot be considered a reliable indicator of a

student's academic achievement. Studies have shown that 20 % of academic success may be due to IQ, the rest of success in academic life is due to other factors (Ghaonta & Kumar, 2014). May be that is why a person with high IQ might still struggle to do 'well'; what then accounts for the other 80% Goleman (2011) asserted that success in life is determined highly by the ability of an individual to grab the various aspects of EI in one's life. Moreover, Research studies by Ghaonta and Kumar (2014) affirmed the crucial elements needed by individuals for success in their practical life is emotional intelligence as cognitive intelligence alone is not enough for assurance of success in life. Previously most research studies have observed the importance of cognitive intelligence for life success and paid no attention to non-intellective factors that significantly included the emotional factors. Furthermore, the significance of non- cognitive aspects especially EI will rise with the rapid changes taking place in academic and assessment practices.

Literature Review

A substantial body of research globally proposes that basis for various competencies are provided by emotional intelligence (Cherniss, 2010; Li, Wei Ting & Wang, 2012; Mwangi, 2012; Nzomo, 2013). In academic settings, a significantly positive correlation of students' emotional intelligence and their academic performance such as Grade Point Average (GPA) has been found (Kracher, 2009 & Packer, 2009). Azhar, Chew, Faezah, Hassan, and Zain (2013) asserted that emotional intelligence of a student assist him in learning in a better way and make him able to perform better academically, citing their possession of interpersonal, intrapersonal and communication skills. According to MacCann (2019), emotionally intelligent students may have the ability of managing unpleasant emotional states, such as anxious feelings, monotony and feelings of disappointment that may lead to good academic performance. Emotionally intelligent students manage social relations in a better way,

establishing positive relations with teachers, friends and family, each one of which contributes to academic success. Brackett (2011) affirmed that emotionally intelligent students are seen to be friendly, cooperative and empathetic by their peers and teachers. MacCann, (2019), propounded that for a student to be successful in school, he must not only be able to understand his emotions but he must manage his emotions in a better way besides being bright and hardworking.

Regrettably, young people are unable to cope well in their personal and social lives in school, as the educational institutions lack to work on a student in a holistic fashion, focusing on his non- cognitive aspects and emotional skills. Consequently, many students lose their positive connection with school environment that leads to their poor academic performance in the class, negative behavior and health issues (Chew, Hassan & Zain, 2013).

It is seen in recent times that in earlier educational period, students suffer from high stress levels anxious feelings and failure in school performance are on the increase (Ishak, Nikravesh, Lederer, Perry, Oguyemi & Bernstein, 2013). The reasons for it are increase in responsibility and independence of the individual, academic burden, and incapability to manage emotions (Enns, Eldridge, Montgomery & González, 2018).

In the same line, Ortiz and Rodríguez (2011) have suggested that an individual's mental processes are promoted by various emotional competencies. It also effects an individual's concentration and management of demanding circumstances, and leads to motivating oneself as well as students are able to perform educational work favorably.

Moreover, research has shown that those students who achieve high levels of EI are able to develop skills and competencies that helpful in managing feelings of anxiety and depression adequately, and that leads to strengthen their feelings of self-esteem, satisfaction with oneself, and the satisfaction of the individuals with their devoted effort, as they become

capable of using different approaches tin controlling emotions and understanding life events, leads to faster recovery and more efficiently from negative emotions (Aslefattahi & Najarpo Orostadi, 2014).

Hence, the construct of Emotional Intelligence as conceptualized by different researchers is comprised of major factors including perception of emotion, understanding of emotion, management of emotion and facilitation of emotion of different intellective tasks (Mayer, Caruso & Salovey, 1999). Recent researches have highlighted the crucial role of regulation of emotions and its management not only in the academic performance of students, but the psychological well- being of students as well in the academic and social activities (Geng, 2018; Narwal & Sharma, 2018).

Cote (2014) asserted in his research that an individual's accomplishments in life are contingent upon his emotional intelligence factors as it promotes our functioning regarding flexibility, motivation level, awareness, rational thinking, management of stress, good communication, as it capacitate an individual to perceive, understand and manage a large number of social circumstances and issues. Emotional intelligence counts and when cultivated leads to a successful life in personal, social, emotional and academic domains.

Numerous researches have shown evidence the crucial significance of emotional intelligence in various settings such as health, administration and education (Ayiro & Sang, 2012; Cherniss, 2010; Li, Wei Ting & Wang, 2012; Mwangi, 2012;Nzomo, 2013). The findings of most reviewed literature indicate that emotional intelligence can help a student learn better and perform well academically (MacCann, 2019; Karimi, Kwena, & Anika, 2020; Ghaonta & Kumar, 2014; Chew, 2013). Further, research studies have indicated correlation between a student's emotional intelligence and his academic performance in adolescent population. (Amaratunge, Jayawardane, Senanayake,Senarath, Silva & Wijekoon, 2016; Nwadinigwe and Azuka, 2012; Brouzos, Misailidi & Hadjimattheou, 2014). Moreover, significant correlation

has been found between an individual's emotional intelligence and his progress and fulfillment, proposing a noteworthy connection between an individual's flexibility and achievement motivation (Magnano, Craparo & Paolillo, 2016).

A study by Ramana and Devi (2018) reported a positive association of emotional intelligence among intermediate students and their academic achievement. The study suggests that academic achievement of students is highly influenced by their levels of emotional intelligence. Their performance in the educational domain is positively affected as they get an awareness of their own emotions. Likewise in a study involving undergraduate students, a significant positive relationship between emotional intelligence and their academic achievement was found (Suleman, Hussain, Syed, Parveen R, Lodhi & Mahmood, 2019).

Similarly, in a study (Pekrun, Elliot, & Maier, 2009) three viable mechanisms seem to work in the connection of EI with academic performance. Firstly, students who have achieved high emotional intelligence may have the ability to effectively manage the unpleasant emotions associated with academic environment. One of the emotions prototypal of academic situation is test anxiety, along with a number of emotions associated with academic settings. Examples of such emotions include regulation of the feelings of disappointment in case of achieving un expected grades or discouraging response, or the monotony experienced in grasping ideas and the course content that are of significant importance instrumentally but has lesser intrinsic appeal (Pekrun, Goetz, Daniels, Stupnisky, & Perry, 2010). Individuals who have the capability of down-regulating their anxiety levels, feelings of disappointment or monotony by using emotion regulation skills may be better able to attain good results in their exams, and to cope effectively with negative feedback and boring course content. If the mentioned mechanism underlies the connection between EI and academic performance, significant association can be seen by emotion management branch and academic performance.

Secondly, education involves a number of social demands that begins early age schooling to university level education such as cooperative play and sharing in kindergarten progressing to coping with group pressure and project management associated with assigned tasks in high schools, to adjustment of transition towards high level of university education. In order to learn and achieve, students must be capable of managing his emotions in a better way so that he can focus the course content. The Students who have high emotional intelligence may be better in the management of social relationships surrounding them that includes teachers, friends, and family members. It has direct influence on grades that includes participation Marks as most teachers are inclined to assign good grades to those students who have established good relations with their teachers. Likewise, it has an indirect effect on marks as the student is facilitated through a system of social support that safe- guard the students in stress. Development of social relations, which is an important subscale of MSCEIT, needs emotion management (Mayer et al., 2016). If the relationship of emotional intelligence and academic achievement involves this mechanism, then it is again expected that emotion management branch will indicate powerful effects as compared to the other branches of the scale. Thirdly, an overlap may exist between the constructs of emotional competencies and cognitive competencies. An example of it can be the knowledge about emotion related words and ability of communicating one's own feelings may be conceived as a verbal ability's subset. Teaching of emotional competencies usually turn out to be teaching scholastic competencies that is vocabulary and spelling build up as a result of learning the language of emotions, and interventions that involves written text may also make a positive difference in reading comprehension. It indicates a possibility that emotional skills has nothing distinctive in it and that the two constructs of emotional skills and scholastic skills are overlapping showing the possibility that emotionally intelligent students probably are smarter in other aspects as well like these students are good with language.

Mac-Cann (2019) suggested that emotional intelligence is one component of intelligence like a student has better understanding of emotions just the same way he can be smart with numeric or exceptional with the use of words. Here, this type of overlapping association between emotional intelligence and academic competencies is claimed to be underlying process due to which emotional intelligence may possibly influence academic performance.

The field of emotional intelligence (EI) offers a useful organizing framework for examining the impact of emotional competencies on mental health in young people (Davis & Qualter, 2019). Key developments in emotional competencies are apparent across childhood and early adolescence, and they are important for mental health in later adolescence and adulthood (Davis & Qualter, 2019). Young people who possess good levels of emotional knowledge to help them identify and recognize emotional cues in themselves and others, and who are able to effectively regulate internal emotional states, are more likely to experience success in navigating complex social interactions, reading and responding to others' cues to establish and grow interpersonal relationships (Trentacosta & Fine, 2010). Developments in how we understand, use, and manage emotions during childhood are important for understanding mental health in later adolescence and adulthood (Jones, 2015). But, those skills are also crucial for understanding wellbeing, including mental health and social connection, during the childhood years.

In the field of education, the construct of academic performance (AP) has been widely studied. The researchers have investigated the intellective factors associated with academic performance (Pellitteri & Smith, 2007). A recent research showed the impact of personality characteristics and personal competency on level of academic performance (MacCann et al., 2019). Emotional abilities has been supported by a large body of research in the recent past, especially the construct of emotional intelligence (EI), because it is assumed to be a viable factor that not only effect well-being but adaptive mechanisms in specified contexts are

regularized due to this factor (Zeidner, Matews, & Roberts, 2012). A number of reviews have shown the importance of emotional intelligence as a personal resource or skill related with several health related issues (Martins et al., 2010), psychological fitness (Sánchez-Álvarez, Extremera, & Farnandez Berrocal, 2016), as well as work performance (Miao, Humphrey, & Qian, 2017). Similarly, a large body of research has been published concerning the relationship of emotional intelligence and academic performance (MacCann et al., 2019).All these researches have shown the suggestive effects of emotional intelligence in predicting academic performance by controlling the effects of factors such as academic performance level, academic success, and students' performance in different educational centers is a vital goal to develop various educational programs. Continuous exams or evaluations are used to measure academic performance, with a general agreement about the most crucial facets to assess, such as skills and competencies, declarative and procedural knowledge level (Ward, 1996). Even though, academic performance has never been agreed upon unanimously, however, assessments of intellective competencies or the declarative knowledge level are the major components assessed (Perera and Di Giacomo, 2013).

Performance on cognitive tasks is better by individuals who have high higher ability of processing information as shown by literature on EI (Saklofske, Austin, Mastoras, Beaton, & Osborne, 2012). The importance of interpersonal and intrapersonal skills raised in secondary education, as in this period an individual undergoes numerous changes and stresses in his personal, societal, and context- specific factors. The peer group of adolescents becomes highly relevant for the development of their emotions and formation of their identity during the adolescent age group period (Eccles, & Roeser, 2009), and the environment of the school gains much importance and relevance as it serves the most immediate contexts (Monreal, & Guitart, 2012). To understand individual differences among adolescents the incidents and early life experiences regarding distinct contexts, the stress response patterns of adolescents

during their different developmental phases, along- with the presence of vulnerability protection of the resources becomes of high relevance (Monreal, & Guitart, 2012). Further, studies argue that to manage the stress of academic work for the achievement of academic success, higher emotional regulation as well as a sophisticated line of adaptation is useful (Saklofske et al., 2012). However, another research study indicate that a greater amount of mental distress is manifested by high emotionally perceptive individuals as they seem to be remarkably impacted by distress as compared to the less perceptive individuals (Ciarrochi, Deane, & Anderson, 2002). The reason might be that less perceptive individuals usually neglect thoughts regarding daily stresses and are probably confused regarding the unpleasant feelings experienced by them manifesting little coherence between their mental maladjustment and degree of perceived distress. Hence, those people who have high emotional intelligence are likely to be more resilient, adapt smoothly to life changes, has better stress response, and cope with problems by taking them as challenging tasks (Schneider, Ehrhart, & Macey, 2013).

Similarly, good interpersonal management is in general related to better social networking leading to high aesthetics in friendship (Brackett et al., 2005). Likewise, a student possessing better social relationships with the classmates might be able to generate an environment of group work, active group learning, and higher favor from class fellows (Hogan, Foreman, Nghavi, Ahn, Wang, Makela, & Murray, 2010), as well as pleasant relations with teaching staff (Di Fabio & Kenny, 2015). An educational environment involving students and teachers together with a deep predisposition of learning-oriented abilities may lead to better academic performance (De Luca, Johnson, Franklin, Yueqi, & Brownson, 2016).

A number of variables have been seen to pay a role in the connection between emotional intelligence and academic achievement. In educational researches, association of

socioeconomic status has been studied to see its effect on academic attainment (Fan, 2012) and school attendance (Kazeem, Jensen & Stokes, 2012)of children.Literature, however, provides different quantitative approaches such as, using different variables to measure socioeconomic status at a community level or at a national level (Cowan, Hausar, Kominski, Levin, Lucas & Morgan, 2013; Manthalu, Khomadnkuyell, 2010; Galobardes & Lynch, 2007). Occupation is also considered as a measure of socioeconomic status in relation to individual's social standing, income and intellect (Manthalu, Khomadnkuyell, 2010). In order to obtain comprehensive socio-economic information, composite measures (with multiple SES indicators) have been widely used and advocated as these capture several aspects of SES (Fotso & Defo, 2007; Fiadzo, Houston & Godwin, 2001; NIPS, 2013).

To the researcher's knowledge, no consolidated socioeconomic status measure has so far been recommended for use in low-middle income countries (LMIC) setting. The current study was planned to determine the socioeconomic status by parental monthly income in rupees. One another important variable in this connection is the type of school a child attends. Pakistan's educational system is stratified according to socio-economic class and can be expressed roughly in terms of type of educational institution. The madrassas cater for very poor children mostly from rural and urban working class localities. The Urdu medium schools cater for lower-middle-class and some middle-class children, while the elite English-medium schools cater for the upper-middle class and above (Ahmad, Amjad, & Habib, 2014). According to the Pakistan Integrated Household Survey (PIHS), UNICEF estimates and the World Bank's country-wide reports of 2018, "Pakistan has a total of 150,129 primary education facilities of which 131,376 (88 percent) are in the public sector whereas 18,753 (12 percent) are run by private sector. At the primary education level some 5 million children are not enrolled in schools of which 19 percent and 31 percent are boys and girls respectively (PIHS, 2018).

Social and emotional competence has been defined as the adoption and utilization of desirable pattern of behavior for socialization to promote healthy communication (Wu, Hu, Fan, Zhang, & Zhang, 2018). Therefore, schools are giving attention to develop social and emotional skills of students at an early age (Denham & Brown, 2010; Gillies, 2011; Greenberg et al., 2003). It is seen that as primary age children develop through school, their ability to identify emotions and interpretation of emotions within the corresponding social contexts develop increasingly (Selman, 1981). As a result, they become able to express their emotions in their social contexts.

It has been observed that Social and emotional competencies help children foster their involvement in different instructional activities by the teacher that leads to improvement in academic achievement (Eisenberg, Valiente, & Eggum, 2010). Other researchers have found that the development of basic social-emotional and behavioral competencies in preschool children (e.g., emotion and behavior regulation skills, attention skills) lead to successful movement to elementary classes (Fantuzzo et al., 2007; Rimm-Kaufman, Curby, Grimm, Nathanson, & Brock, 2009). Evidently, a causal relationship between social-emotional competencies and corresponding academic capability has been seen in elementary school students (Raver, 2002).According to Nix, Bierman, Domitrovich, and Gill (2013), the involvement of children in different learning activities is directly affected by development of their social and emotional competence consequently facilitating their academic achievement. Moreover, additional social and emotional help is required to ascertain high academic achievement. Nix et al. (2013) showed an association between social and emotional competence and a child's development of language proficiency, ability to read and write, as well as involvement in learning activities.

Further researches have shown a link among a child's degree of socialization, readiness to

school, academic achievement and his social and emotional developmental skills. Moreover, for a child to be academically successful, he must go through pleasant emotional experiences and socially vibrant environment at a young age (Denham, Bassett, Thayer, et al., 2012). These researchers illustrated that preschoolers' emotional regulation skills are predictive of their later high academic achievements (Denham, Bassett, Thayer et al., 2012).Another study by Ashdown and Bernard (2011), argued that the social and emotional skills development is associated a child's academic success and his overall well - being.Denham, Bassett, Mincic et al. (2012) showed that the research focus has shifted from cognitive skills to social and emotional skills as an individual's well- being and academic success is positively influenced by these skills.

Another research study by Collie, Martin, Nassar, and Roberts (2018) stressed on the fact that social and emotional competence are critical for students in the school as well as in other different social contexts. They showed an association between social and emotional competence and a child's academic success, school readiness, academic involvement and well- being.Another research study aimed at finding the relationship between a child's comprehension of emotion, comprehension of grammar, and his capacity of working memory in the age range between 5 to 11 years. They found a strong impact of the development of working memory on the development of emotion comprehension.

A number of persuasive theoretical mechanisms advocate the relationship of the two constructs of emotional intelligence and better academic functioning in elementary and secondary school education. Researchers have argued that a close relationship exists between emotional intelligence and the academic performance of students (Mac Cann et al., 2011). Students with high emotional intelligence scores showed prosocial behavior (Petrides et al., 2010), and more empathetic behavior that helps in school performance (Duffel et al., 2006). Thus emotional intelligence can be related to indicators of personal and academic

performance (Pekrun et al., 2006; Saklofske et al., 2012). Therefore, schools need to develop emotional intelligence programs (Durlak et al., 2011; Saadi et al., 2012).

Numerous other research studies have shown that women score higher on interpersonal and intrapersonal domains while men stand out in the adaptability and general mood domains (Bar-on & Parker, 2000; Ferrándiz et al., 2012; Santesso et al., 2006). Research has shown that gender differences in emotional intelligence can be seen since childhood. The difference may be explained on the basis of differences in emotional instruction for the two genders (Brackett & Salovey, 2006). Research shows that high poverty levels facilitate differences in public and private school resources and education (Mc Ewan, 2008; Stelmach, 2007; Torche, 2010).Similar study in this connection assessed the relationship of emotional intelligence and academic achievement in children of grade 4 to grade 8 with the age range of 9 to 13 years (Malik & Shujja, 2013). The results showed a good relationship between academic achievement and emotional intelligence. Moreover, it showed that children of Public school were high on EQ than children of Private schools but low on academic achievement. This study found no major difference on the total EQ score for both the genders but sub scale differences existed however.

Presently, focus on research studies pertaining to emotional intelligence and academic achievement in primary school students is not to the desirable level at the national level. Nevertheless, despite the aforementioned, somewhat research work on emotional intelligence and academic achievement has been worked out in adult population (Fatima, Shah & Kiani, 2011; Gillani, Waheed, Saleem, & Shauhat, 2015; Nasir, 2012). In the same line, a recent research conducted by Afridi (2019) found a positive association between the construct of emotional intelligence and the resulting academic achievement of secondary school students.

Rationale

In Pakistan, efforts have been taken to develop indigenous measures of trait emotional intelligence. A self-report assessment tool of emotional intelligence for heart patients and healthy individuals was developed (Khan, 2008). It is an adult scale consisting of 60 items based on mixed emotional intelligence by Goleman to study emotional intelligence in a clinical health setting specific to Pakistan's culture. An indigenous scale of emotional intelligence (SEI), following the mixed model Goleman (1998) was developed in Pakistan (Dawood, 2007). It included five distinct domains that are (a) self-awareness, (b) self-regulation, (c) motivation, (d) empathy, and (e) social skills with their respective sub-domains. Another indigenously developed self-report measure is the trait emotional intelligence scale based on the Bar-on model of social emotional intelligence (1997, 2000) for adult population that ranges from age 16 to 60 (Batool & Khalid, 2011). Another study assessed the relationship of emotional intelligence and academic achievement in children of grade 4 to grade 8 with the age range of 9 to 13 years (Malik & Shujja, 2013). In Pakistan, currently, there is scarce research concerning the role of emotional intelligence and academic achievement in primary school students. However, studies have been conducted to find the connection between emotional intelligence and academic achievement in adults (Fatima, Shah & Kiani, 2011; Gillani, Waheed, Saleem, & Shauhat, 2015; Nasir, 2012). Similarly, Afridi (2019) assessed the relationship between emotional intelligence and academic achievement of secondary school students and found a positive relationship using Bar- on social and emotional model. To assess children's emotional intelligence, currently, no scale of emotional intelligence is developed in the Pakistani cultural context that can be a reason for the lack of research in the child and adolescent population.

To help students excel academically and boost their well - being, teachers and parents are required to focus on the student's emotional skills. Educating today's student is more challenging as it is important now to work on different ways to reach and inspire a child's thought pattern and emotions rather than assessing his intellectual ability and acquisition of knowledge. So, one of the exciting ways to access a student's heart and mind is by the affective realm or what recently has been termed as emotional intelligence (EI). Furthermore, non-cognitive skills, encompassing emotional intelligence skills has got significance due to the recent changes taking place in the field of education and assessment modes.

The area of emotional intelligence is gradually growing, exhaustive reviewed literature showed mixed results that warrant more research. Considering this, there is, a dire need to explore the ways in which emotional intelligence and academic achievement are related in the particular context of the country to add more information in the existing literature. In addition, most of the studies have been carried out on students in higher levels and therefore a need to look into the association of emotional intelligence and academic achievement among primary school students in Pakistan exist. This empirical study therefore, sought to develop an indigenous emotional intelligence scale and find out the relationship of emotional intelligence of primary school students and their academic achievement in Pakistan.

The construct of emotional Intelligence has gained great importance during the last three decades in the domain of education as it not only promotes the psychological well-being of students but it also capacitate an individual to understand his surrounding environment in a better way, and it also provides them with the necessary skills to deal with the daily life stresses.Therefore, this construct of emotional intelligence is accepted as an academic process that ought to be enduring and continuous, helping in the overall students' development (Bisquerra &Pérez Escoda 2012; Petrides, 2016). Likewise, a close link has been seen in appropriate acquisition utilization of emotions and academic success, emphasizing the

significance of subject matter understanding as compared rote learning (Dolev & Leshem, 2017). Knowing the importance of Emotional Intelligence in major spheres of a student's life like education, socialization and health, it is therefore necessary to encourage the development of the students' emotional intelligence.

Objectives

The current comprehensive study was designed to attain the below mentioned objectives:

1. Development of an emotional intelligence scale for children (age 7- 11 years) in the cultural context of Pakistan.
2. Establishment of the psychometric properties of the emotional intelligence scale.
3. Exploration of a new area of research by establishing the connection of emotional intelligence with academic achievement..
4. Investigation of the correlation of emotional intelligence and major demographic variables of age, gender, socio economic status, class and type of school of children.

Hypotheses

1. Emotional intelligence of Children is positively correlated with academic achievement.
2. Girls have high emotional intelligence as compared to boys on emotional intelligence scale for children.
3. Emotional intelligence is positively correlated with age in both girls and boys groups.
4. Students belonging to higher socio economic status have high emotional intelligence as compared to students of middle and lower socioeconomic strata in both girls and boys groups.
5. Students of private schools have high emotional intelligence scores as compared to government school students in both girls and boys groups.

Conceptual Framework

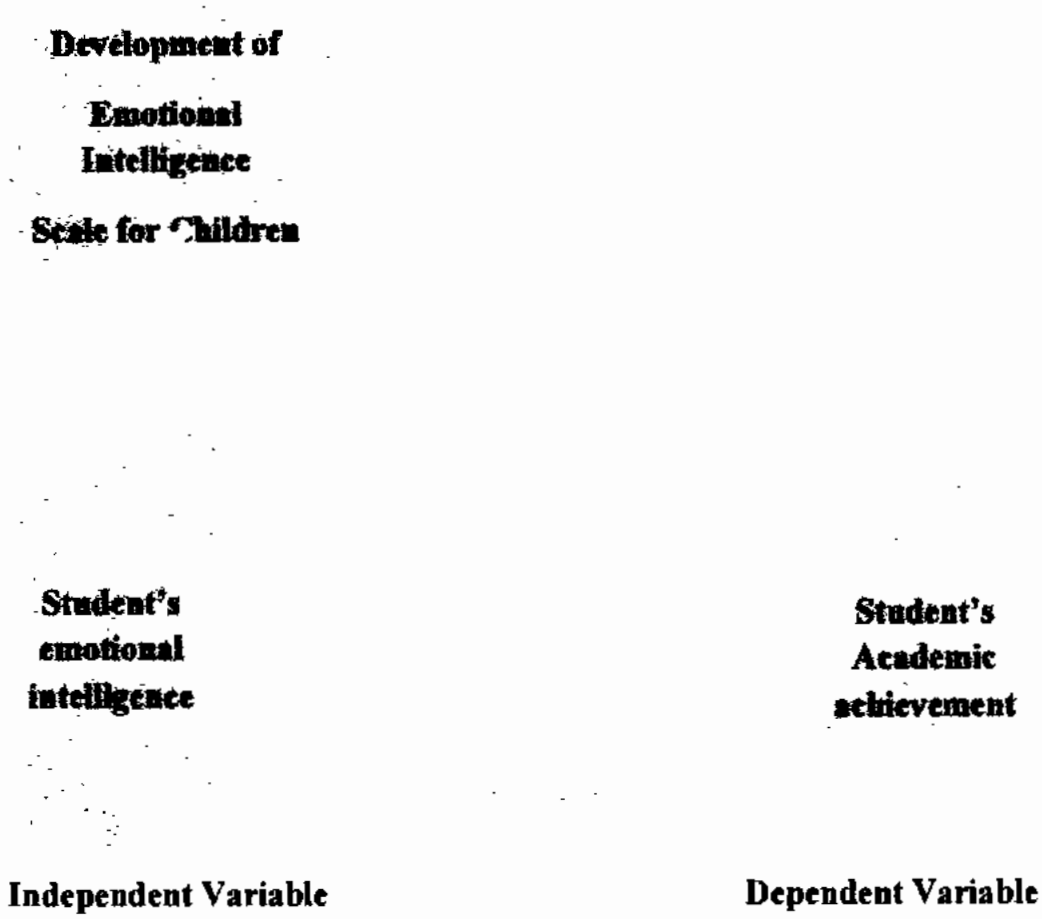

Figure 3 Conceptual Framework showing the relationship of Emotional Intelligence and Academic Achievement

Chapter II

Method

This chapter presents the research methodology intended for the development an indigenous scale of emotional intelligence for children. The term research methodology attributes to the science of deciding suitable methods to productively conduct a research project (Burns & Bush, 2006).

The research design pertaining to the study is elaborated. Sample selected for the study as well as the procedures of data collection, administration of the scales and its measurement are also presented. Finally, the tools for statistical analysis are discussed.

Research Design

The study was an exploratory research study in which a mixed method research approach was chosen. Creswell (2009) defined that mixed method research is composed of quantitative and qualitative approach. In the light of the positivist approach adopted in this study, as well as the adoption of mixed method research methodology, primary data collection was considered more appropriate for the study. Approval of the Board of Studies and Department of Psychology IIUI Ethics Committee was sought to carry out the research study. The study adopted a cross-sectional research design because the present study's pattern was based on the relationship among the various variables as emotional intelligence and academic achievement at one point. Cross-sectional data from a research design is fairly more inexpensive and takes lesser time to conduct. Research design based on cross-sectional data is more representative of the population than longitudinal data. Two studies were conducted involving different phases that related to the development and validation of the emotional intelligence scale for children. In Study I, Phase I was focused on generation of item pool, finalization of items for the pool and pilot testing. Phase II was dedicated to data screening,

the exploration of factors and assessment of reliability and validity of the measure. Step I started with the data screening process that included response rate, treatment of incomplete questionnaire, detection of outliers. The respondent's profile was developed. In the Step II, exploratory factor analysis (EFA) was conducted to explore the factors that sampled the domain of emotional intelligence of children. Phase III elaborated the reliability assessment was carried out while Phase IV focused on the validity analysis of the newly developed scale. In Study II that was the main study, relationship between emotional intelligence and academic achievement of primary school students was assessed. Quantitative analysis of the data was carried out through SPSS version 26. In the study analyses were carried out using different statistical techniques like t- test, ANOVA and Pearson correlation. A schematic depiction of the study is presented in the figure.

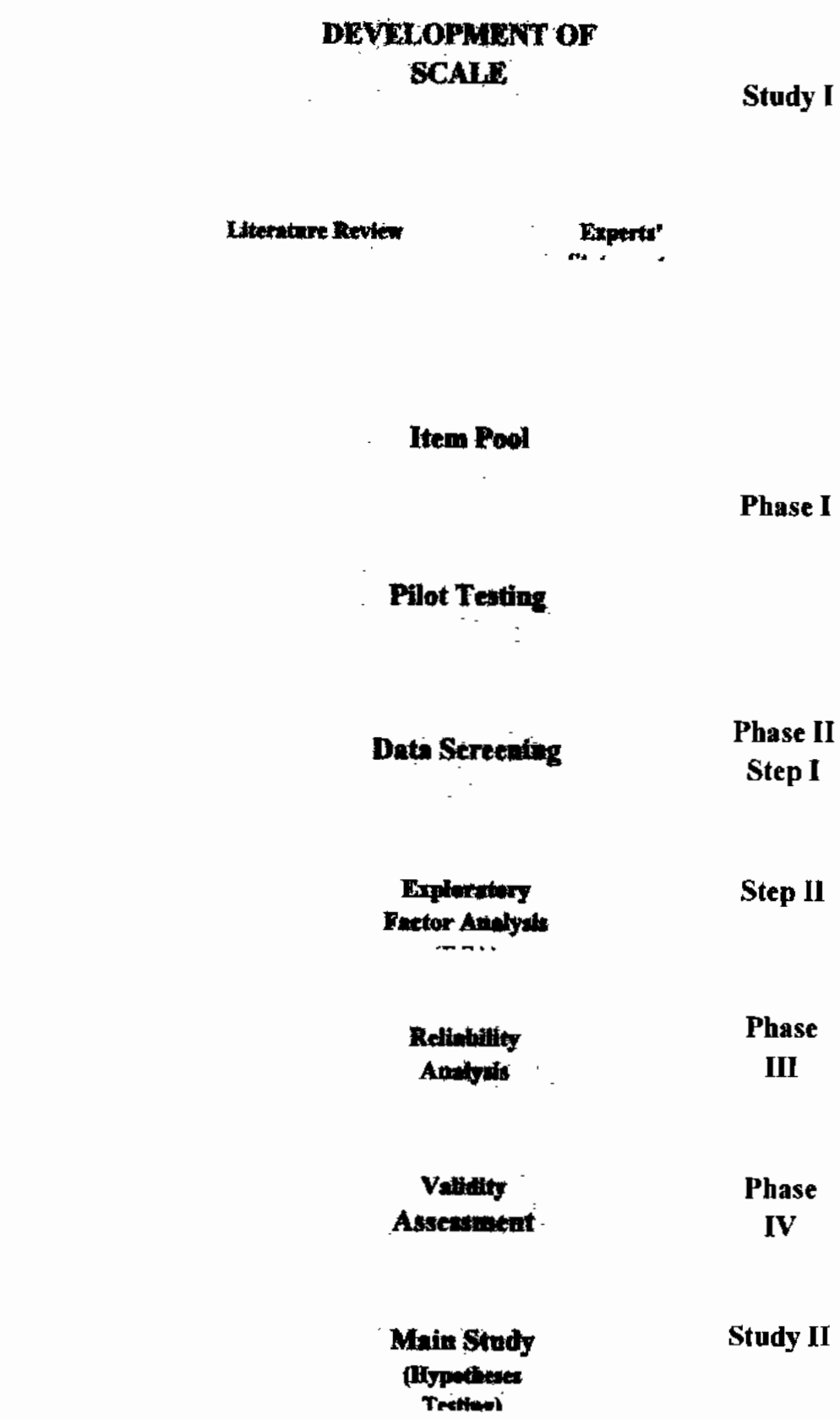

Figure 4 Schematic depiction of the study Design

Sample

In pilot study, scale consisting of the 107 items recommended by the judges was administered to a sample of 35 students (18 boys, 17 girls) in the age range of 7- 11 years. Sampling of male and female students was based on convenient sampling technique. Sample was collected from Peshawar and Islamabad.

For factor analysis, a representative sample across the country, 720 individuals from primary school population that were in the age range of 7 to 11 years (mean = 9.01 & SD = 1.42) were selected using purposive sampling technique from major cities of the country (e.g., Karachi, Lahore, Peshawar, Quetta, Islamabad and Rawalpindi). These students were from different socio economic strata's i.e. upper class, middle class and lower class. Approximately half of the students were selected from Private schools while the other half from the Government sector schools.

To find how emotional intelligence is related to academic achievement, a sample consisting of 394 individuals from primary school population that were in the age range of 07 to 11 years were selected using purposive sampling technique from Peshawar, Rawalpindi and Islamabad. These students were from different socio economic strata's i.e. upper class, middle class and lower class. Approximately half of the students were selected from Private schools while the other half from the Government sector schools.

Inclusion Criteria

Children from primary school population that were in the age range of 07 to 11 years and were in grade I to grade V became part of the study. Approximately half of the sample comprised of boys and half of it consisted of girls. Children of three socio economic strata's

(upper class, middle class, lower class)were included in the study. Students from both the government schools as well as the private schools were included in the study (Table 4).

Exclusion Criteria

Children who were not in the age range of 07 to 11 years were not part of the study. As the scale is in Urdu, so children not going to school and those who didnot understand Urdu were not included the study. Children having difficulty with listening or reading the questions of the scale were dropped from the study.

Operational Definition

Academic Achievement

"Achievement encompasses student ability and performance; it is multidimensional; it is intricately related to human growth and cognitive, emotional, social, and physical development; it reflects the whole child; it is not related to a single instance, but occurs across time and levels, through a student's life in public school and on into post-secondary years and working life" (Steinberger, 1993). Similarly, Merriam Webster has defined the term achievement as "the quality and quantity of a student's work." This second definition is the one that more or less applies to this research, the former being too exhaustive. What needed here is the quality of the students' work; the mean of their overall grades during the current year. Hence, the final grades of the students of the school subjects were obtained from the school teachers.

Emotional Intelligence

"Emotional Intelligence is a cross section of interrelated emotional and social competencies, skills and facilitators that determine how effectively an individual understand and express one's self, understand others and relate with them, and cope with daily demands" (Bar-On, 2005).

An individual's scores on the emotional intelligence scale for children determines his level of emotional intelligence with lower score indicating low emotional intelligence and higher scores indicating high emotional intelligence.

Instruments

Demographic Sheet

The demographic sheet comprised of gender, age, class, name of the school, mother tongue, number of siblings, birth order, monthly income of parents in rupees to assess socio economic status and marks obtained in the last annual examinations.

Emotional Intelligence Scale for Children

Emotional Intelligence Scale for childrenwasdevelopedinthefirst study of the current research (*SeeAppendix*).EISCconsistsof 64 items encompassing ten sub scales (1) Flexibility, (2) Emotional Self Awareness, (3) Happiness, (4) Self Regard, (5) Problem Solving, (6) Social Relations, (7) Stress Tolerance, (8) Impulse Control, (9) Empathy, and (10) Assertiveness. The response pattern of the scale is based on five-point Likert scale ranging from Always (5) to Never (1). Inter-item and Item-total correlations of EISC are depicted in Chapter III. EISC demonstrated high internal consistency, with Cronbach's Alpha coefficients range from .69 of .94.The Cronbach's alpha for the overall EISC is.83.

Procedure

The newly developed scale named as Emotional Intelligence Scale for Children (EISC) was used in the study. School children served as the subjects of the study who were accessed personally at their schools. Prior permission was sought from the principals of the schools. They were briefed about the purpose of the study. A written consent form was handed over to each of the student by their teachers to get it filled by the parent or guardian. In the next visit, questionnaires were distributed among the students to the willing participants. It was ensured that the information to be kept confidential. The students filled-up the questionnaires in the class and any ambiguities pertaining to the items were made clear on the spot. Some of the items were rephrased for clarity. To fill up the questionnaire, subjects were seated comfortably and they were asked to take their time. The completion of questionnaire took approximately 35 minutes. The scale has a reading level of grade four. So, the students from grade one to grade three filled the items by reading it to them by the teacher while the students of grade four and grade five filled the list of items independently.

Data Analysis Techniques

Statistical Package for Social Science (SPSS) version 26 was used for the analysis of data in the current study. The steps involved in the analysis process were as follows:

i. In the first step, the data screening process was completed, which consisted of three main tests that were missing data treatment, detection of outlier and normality assessment.

ii. In the second step, the prime structures of variables were attained by the technique of exploratory factor analysis (EFA). The purpose of EFA is to organize and trim down the information embedded in the actual variables to a smaller number of factors without losing much information (Costello, 2009). Hence, newly developed variables must be representative

of the basic constructs that underlie the actual variables (Conway & Huffcut, 2003). The present study used the EFA with the multiple criteria as suggested by researchers (Willams, Brown & Onsman, 2012). Therefore, on the basis of distribution of data extraction and rotation techniques chosen and Eigen values > 1, the percentage of variance method, the scree plot and the theoretical relevance, the number of components to be retained were finalized.

Data Screening

Data analysis for this study included the data screening process i.e. Remedy of missing data, detection of outlier and normality test.

Remedy of Missing Data

Hair et al. (2006) proposed that as much as ten percent missing data could be ignored from each individual observation in the sampling techniques. Schumacker and Lomax (2004) noted that the mean substitution technique is generally used for the missing data remedy from small sample data. However, a larger sample is not affected by the missing data. In this case, the sample is large enough in which missing data can be ignored. Out of a sample of 720, a sample of 694 was considered, as there was missing data in the rest of the cases.

Detection of Outliers

Researchers have identified the extreme values, which were unusually high or unusually low in the data set as outliers (Anderson, Sweeney, & Williams, Camm, & Cochhran, 2016). Hair et al. (2006) expressed that when a standardized value of data is less than -4 or greater than +4, it could be recognized as an outlier. Pallant (2007) recommended that researchers Detection of Outliers clear or eliminate as difficult outliers can distort statistical tests. When outlier is linked to data entry error or a recording mistake, it could be eliminated. Thus, the

standardized data was considered between the range of -4 and +4 for detection of outlier in this study.

Normality Test

Hairetal.(2006,p.40)describedthatnormalityasthedegreetowhichthedistributionof the sample data corresponds to a normal distribution. Normality test refers to two indicators such as Skewness and Kurtosis. Skewness refers to the comparison of symmetry of a distribution with a normal distribution. Similarly, Kurtosis is described as the graphical shape in reference to the distribution peak if it is taller or smaller from the normal distribution (Morgan & Griego,1998).

There are some cutoff values for skewness and kurtosis that could determine whether the practical variable has a normal distribution in the large sample such as 200 or more (Field, 2009). The normality is in problematic zone when the absolute value of Skewness is greater than +-2, and similarly if kurtosis carries a value greater than +-7 (Kline, 2015). The present study tested the normality of data with the help of the observation of skewness and kurtosis. The exploratory factor analysis explores how many factors are there, whether the factors are correlated, and which observed variables appear to be the best measure are factors (Schumacker &Lomax, 2004, p. 155). In the same context, (Kline, 2015) suggested that exploratory factor analysis as a group of procedures that include centriod, principal component, and principal axis factor analysis, among many others, that differ in the statistical criteria used to derive factors. Exploratory Factor Analysis (EFA) has two basic kinds of modes to obtain the factor solutions: common factor analysis and component factor analysis (Ho, 2006). The purpose of the common factor analysis is to put in plain words the interrelationships among the new variables. On the contrary, the aim of the component factor

analysis is for the selection of components that clarify as much as possible the variance from the sample (Hutcheson & Sofroniou, 2011).

The common factor analysis has been found to have no major disparity with the component factor analysis according to viewpoint of many researchers. Some researchers gave more preferences to common factor analysis compared to component factor analysis (Steiger, 1990; Schonemann, 1990; Guadagnoli & Velicer, 1998). Futhermore, researchers (Velicer &Jackson, 1990) assume the application of common factor analysis to be challenging as compared to the component factor analysis. The researchers have used component factor analysis comprehensively (Jolliffe, 2002). Finally, component factor analysis was adopted for the study.

Testing for Factor Analysis Correctness

Before doing factor analysis, data matrix is tested to identify if it had suitable correlations to verify the applicability of factor analysis by the researchers (Shu, 2010). Commonly, there are four methods that verify a data matrix, to see whether the present data matrix can support the factor analysis.

1. Examination of Bartlett's Test of Sphericity

2. Assessment of Kaiser-Meyer-Olkin Measure of Sampling Adequacy

3. Assessment of the Correlation Matrix

4. Scrutiny of the Anti-Image Correlation Matrix

Assessment of the Correlation Matrix

Correlation matrix is assessed whether suitable correlation exists within the data matrix or not. The weak correlations throughout the correlation matrix point out that factor analysis is inappropriate (Stewart, 1981). The correlation matrix has cutoff values to indicate its

appropriateness for factor analysis – a correlation of 0.30 or greater is considered appropriate, and is considered inappropriate if less than that (Hardy & Bryman, 2004). Another researcher, Pallant (2007), recommended that when significant numbers of variables have correlations more than 0.30 within a data matrix, than factor analysis has its applicability. Otherwise, factor analysis cannot be applied on such a data matrix.

Scrutiny of the Anti- Image Correlation Matrix

The anti-image correlation matrix means that partial correlations of the data matrix have negative values (Brace, Kemp & Snelgar, 2006). When the influence of other variables is accounted, a partial correlation between variables is unexplainable. Therefore, high partial correlations indicate that the data matrix has greater unexplained correlations (Hair et al., 2006). The lowest anti-image correlations show that a data matrix is suitable for factor analysis (Field, 2009). Present study showed low anti- image correlations, hence, was considered suitable to factor analysis.

Examination of Bartlett's Test of Sphericity

To assess correlation among its variables in a correlation matrix, a statistical test known as Bartlett's Test of Sphericity is used (Hinton, Brownlow, McMurray & Cozens, 2004). There exist adequate correlations among the study variables to apply factor analysis in a data matrix when Bartlett's test of sphericity is statistically significant at sig. < 0.05(Hinton, Pham, Tran, Safren, Otto, & Pollack, 2004; Pallant, 2007). Else, the data matrix is considered not suitable for factor analysis. Present data showed sufficient correlation among the variables to implement factor analysis on the data.

Assessment of Kaiser-Meyer-Olkin Measure of Sampling Adequacy

According to Stewart (1981), the Kaiser-Meyer-Olkin is a measure of sampling adequacy that is an index that quantifies the intensity of inter-correlations among the variables.

The Kasir-Meyer-Olkin values range from 0 to 1. When Kasier-Meyer-Olkin measure of sampling adequacy value is closer to 1, it shows that variables are predicted completely without any error from the other variables. According to Kaiser and Rice (1974), the data matrix is suitable for factor analysis with these cut-off values.

Table 3

Kaiser- Meyer-Olkin (KMO) values of sampling adequacy

Level	**Value**
Marvelous	0.90 or above
Meritorious	0.80 or above
Middling	0.70 or above
Mediocre	0.60 or above
Miserable	0.50 or above
Unacceptable	Below than 0.50

The data matrix of the present study was considered suitable for factor analysis, as the KMO value that is used for sampling adequacy was sufficiently high.

Factor Extraction in Principal Component Analysis

Factor extraction is a statistical technique that is used to extract the minimum possible number of factors that could be implemented to best correspond with the interrelations among the variables (Pallant, 2005). There are three kinds of factor extraction mostly used by researchers, which are (a) Latent root criterion, (b) Percentage of variance criterion, and (c) scree test criterion (Hair et al., 2006).

Latent Root Criterion

Bryman and Cramer (2004) stated that the basic principle of the latent root criterion isthat only those factors are retained for further analysis that account for variance of more than one variable. Every variable shares a value of 1 to the total eigen value. Furthermore, one factor having more than 1 latent root/ eigen value is retained which are known as the Kaiser's criterion (Hardy & Bryman, 2004). According to Child (1990), the Kaiser's criterion analysis can be applied when the variables in the factor analysis range from 20 to 50.

Percentage of Variance Criterion

The statistical tool of percentage of variance criterion is used to verify the practical importance of the factors significance by indicating that these factors explain a minimum amount of the total variance in the data (Hair et al., 2006). The sixty percent of the total variance is a satisfactory level for common consideration of solutions (Hair et al., 2006). Present study was aided by the percentage of variance criterion.

Scree Test Criterion

The scree test criterion assesses the eigenvalue graphically and finds the cutoff point where the curves are fattened out (Osborn & Costello, 2005). The process of the scree test criterion has been elaborated by (Stewart, 1981, p.58) as follows:

A straight edge is placed on the bottom portion of the roots to find where they form a roughly straight line. The number of factors is shown rightly above the straight line in the factor curve where the last factor is the one whose eigen value right away precedes the straight line in the scree plot. Present study used the criterion of scree plot.

Factor Rotation

Osborne and Costello (2005) have shown that factor rotation is basically implemented for getting the simpler and highly significant factor solution. There factor rotation is of two types, (a) Orthogonal factor rotation and (b) Oblique factor rotation (Bryman & Cramer, 2004). Several researchers have suggested that the orthogonal rotations strengthen the factors to be un-correlated (Bryman & Cramer, 2004; Pallant, 2005; Spicer, 2005). The interpretation of orthogonal output was made easy by Tabachnick and Fidell (2001). The orthogonal factor rotation is divided into three methods such as QUANTIMAX, VARIMAX and EQUIMAX (Larose, 2006).

QUANTIMAX is a rotational method that reduces the rows related to the factor matrix via rotation of the preliminary factors, therefore, the variable loadings are high at the beginning and going low gradually on other factors (Lorose, 2006). QUARIMAX method of factor rotation was not used much in previous researches (Meyers, Gamst & Guarino, 2006), and nor has this method been proved instrumental in eliciting easy structure (Harman,1976).

The EQUIMAX method of orthogonal factor rotation, on the other hands, is a combination of QUARTIMAX and VARIMAX methods of factor rotation (Larose, 2006; Meyers et al., 2006). Hair et al. (2006) and Meyers et al. (2006) noted that EQUIMAX did not gain much acceptance among the researchers.

Larose (2006) narrated that VARIMAX rotational method simplifies the factor matrix via columns. The rationale of the VARIMAX rotational method is interpreted in two ways: When

the variable-factor correlations approaches either + 1 value or -1 value, a strong positive or strong negative relationship between the variable and the factor is depicted; however, when the variable- factor correlation approaches 0, weak to no correlation is indicated. The VARIMAX method of factor rotation is a successful way to get the orthogonal rotation method. Furthermore, VARIMAX factor rotation method has been frequently used in the orthogonal rotation method (Meyers et al., 2006). VARIMAX rotation method has been adopted in the present study as a suitable rotation from an orthogonal rotation method.

Chapter III

Results

This chapter encompasses two studies comprising of different phases pertaining to the development and validation of the emotional intelligence scale for children aged 7- 11 years and its relationship with their academic achievement. In Study I, Phase 1, was focused on generation of item pool, finalization of items for the pool and pilot testing. Phase II was dedicated to data screening, the exploration of factors and assessment of reliability and validity of the measure. Step I of this phase started with the data screening process that included response rate, treatment of incomplete questionnaire, and detection of outliers. The respondent's profile was developed. In the next step (step II) exploratory factor analysis (EFA) was conducted to explore the factors that sampled the domain of emotional intelligence of children. Phase III elaborated the reliability of the scale while the final phase (Phase IV) elucidated the validity process of the newly developed scale. In Study II that was the main study, relationship between emotional intelligence and academic achievement of primary school students was assessed.

Study I

Objectives

The present study was carried to accomplish the following objectives.

1. Development of an emotional intelligence scale for children (age 7- 11 years) in the cultural context of Pakistan.

2. To establish the psychometric properties of the emotional intelligence scale.

Phase I Item Pool Generation

This phase elucidates the process of item generation process and suitability of items to be retained in the final item pool. Pilot study was conducted on the items approved through committee approach to finalize items for exploratory factor analysis.

The first step in the development of the scale was the generation of items related to every aspect of the construct. For the purpose of construction of items for the scale a deductive approach was adopted. Extant research relevant to the construct of emotional intelligence was consulted as proposed by (Burisch, 1984). In the second step, public (teachers, parents and experts) was consulted for the generation of items. The steps are explained in detail below:

Literature Review

The Bar-On model of social and emotional intelligence (1997, 2000) and literature regarding different factors of the construct of emotional intelligence was studied thoroughly to generate first list of items.

Experts' opinion

Secondly, a proforma that contained comprehensive definition of the factors of the construct of emotional intelligence as given by Bar-On (1997, 2000) was designed (Annexure). In this

proforma the 15 dimensions of the model were explicitly explained as it was observed during the initial interview meetings with the teachers and parents that there was some confusion in the concept of emotional intelligence and its different aspects were not clear. The proforma was distributed among the willing subjects (teachers, parents and psychologists) for generation of the items. The interested candidates were requested to generate at least 3 items for each dimension.

Committee approach

The items generated by literature review and experts' opinion were reviewed if they fully cover all aspects of the multidimensional construct of emotional intelligence. The items generated were written in the form of statements. Simple and clear language was adopted for the statements. These items from both the lists were pooled up. Committee approach was conducted in which the list of items related to the construct was presented to seven experts, who were faculty members of psychology department. The members of the committee included five faculty members of the department of Psychology and two members from the department of Psychology, University of Peshawar.

Dr. Nazia Iqbal (Assistant Professor of Psychology, IIUI)

Dr. Neelum Ehsan (Assistant Professor of Psychology, IIUI)

Dr. Rabia Mushtaq (Lecturer of Psychology, IIUI)

Dr. Tamkeen Saleem (Lecturer of Psychology, IIUI)

Dr. Bushra Hassan (Lecturer of Psychology, IIUI)

Dr Summaya Ahmad (Associate Professor of Psychology, UP)

Dr. Muhammad Hayat (Lecturer of Psychology, UP)

The items were discussed and examined if they relate to the construct, item structure, language placidity as well as face validity. Some of the items were removed while some items were paraphrased. In second meeting of the same judges, 137 items were presented again. The list of items was reviewed by experts and those items that needed rephrasing and reconstruction were considered again.

Finalization of items

The items were finalized to be included in the final pool. A total of one hundred and seven (107) items were approved on the recommendations of the experts. The criterion adopted for the inclusion of an item in the list was (a) face validity of the construct; (b) clear and simple language; (c) Avoidance of prolixity; and (d) comprehensiveness. In the final list, order of the items was changed and negatively worded items were reverse coded.

Response Format

Likert type 5- point scale (1= *never*, 2= Seldom, 3= *some time*, 4= often, 5= *always*) was selected as response format as it allow for degree of freedom and even no opinion. Therefore quantitative data is obtained, which means that the data can be analyzed with relative ease. Higher scores on the scale are indicative of high emotional intelligence whereas the lower scores show low emotional intelligence.

Pilot study

The items finalized were tested in the pilot study. In pilot study psychometric cleansing of the items defining the construct were confirmed. Further, items that were ambiguous, unclear and superfluously repetitive were removed. In this way, a comprehensive, coherent, and a questionnaire of relatively shorter length were ensured. It also provided an insight into the practicality of items selected in the questionnaire.

Sample

Sample of 35 individuals was recruited from Peshawar and Islamabad (boys =18 & girls = 17). The age ranged between 07 and 11 years. A non- probability sampling technique called convenient sampling strategy was used.

Procedure

The finalized scale consisting of 107 items recommended by the experts was used in the pilot study. School children served as the subjects of the study who were accessed personally at their schools. Prior permission was sought from the principals of the schools (Annexure-A). They were briefed about the purpose of the study. A written consent form and demographic data sheets were handed over to each of the student by their teachers to get it filled by the parent or guardian (Annexure- B). In the next visit, questionnaires were distributed among the students to the willing participants. It was ensured that the information to be kept confidential. The students filled-up the questionnaires in the class and any ambiguities pertaining to the items were made clear on the spot. Some of the items were rephrased for clarity. To fill up the questionnaire, subjects were seated comfortably and they were asked to take their time. The completion of questionnaire took approximately 35 minutes. The scale has a reading level of grade four. So, the students from grade one to grade three filled the items by reading it to them while the students of grade four and grade five filled the list of items independently.

Analysis

Reliability analysis of the items showed that all the items had fairly high Cronbach's Alpha to be considered for further analysis.

Phase II

Phase II was aimed at the exploration of the factors for the emotional intelligence scale for children. Step I has elaborated the steps involved in the data screening procedure of the items in the item pool required. In step II, the items assessed through the screening procedure underwent exploratory factor analysis. In step III, reliability and validity of the scale were assessed.

Step I: Data Screening Process

In this section, the data was examined because the items were both researcher administered as well as self- administered, so to counter the response error, the response profile was analyzed thoroughly. Initially, the response rate was examined. The items were checked for the outlier cases, response profile, sample size, communalities, correlation matrix and missing data.

Response Rate

Data was collected from children of major cities of Pakistan. A total of 720 questionnaires were distributed in different schools through teachers. There were 26 questionnaires that were either found missing or incomplete, hence these items were disqualified from the sample size of this study. After screening the data, 694 responses were obtained. According to Acuma and Rosdigner (2004), the missing data was not a serious issue as the missing data was less than 5% of the sample size. The response rate is shown in the table below.

Table 4

Descriptive statistics for Gender, Age, Socioeconomic status, School Type and Class of sample of 694 (N= 694)

Variables	Frequency	Percentage %
Gender		
Male	355	51
Female	339	49
Age Group		
7-9 Years	491	71
10-11 Years	203	29
SES		
Low	317	46
Middle	172	25
High	205	29
School Type		
Government	356	51
Private	338	49
Class		
1-3 Class	491	71
4-5 Class	203	29

Detection of outliers

To ascertain the normality of the data, two methods were used, namely box plot and skewness and kurtosis calculation (Hair et al., 2007; Meyers et al., 2006). As, the sample size is greater than 300, so, the absolute value of skewness and kurtosis will be examined. The absolute values of skewness should be between + 2 and -2, while the absolute values of kurtosis shall lie between + 7 and -7 for data to be considered normal (Kline, 2015) (Annexure F). The absolute values of skewness and kurtosis are in the range given. Outliers were detected with the help of Box Plot after the screening process in this study. No extreme outlier case was found within the data (Annexure G). By the statistical analysis, a reasonably normal distribution of all items was ascertained (Coakes 2003).

Sample Size

To measure sampling adequacy, researchers have recommended various statistical techniques. A number of researches suggest that the adequacy of sample size is based on the composition of data (Fabrigar, Wegener, MacCallum, & Strahan, 1999; MacCallum, Widaman, Zhang, & Hong, 1999). A data set that has uniform high communalities, high factor loadings (>= .6), item loadings of 4 or greater with no cross loadings is assumed to be a fit data set for factor analysis despite a small sample size.

For standardization of sample size, another commonly used criterion is subject to item ratio. To ascertain the sample size for factor analysis, Costello and Osborne (2005) conducted a survey. It was found that the criteria of 10:1 for subject to item ratio was adopted in about 62.9% of the researches for factor analysis, 40.5% used 5:1 subject to item ratio while 14.7% of the research studies even used a 2:1 subject to item ratio. In the current study, a sample of 694 was used for 107 items for factor analysis that was assumed appropriate for factor

analysis. In the current study, the selection of sample for factor analysis was based on the recommended criteria by (Nunnally, 1978; Comery, & Lee, 1992).

Further, the sample size underwent empirical testing procedures like KMO and the Bartlett tests of sphericity. The value of KMO = .912, which is high and for sampling adequacy, it can be placed in the category of "excellent" (Kaiser, 1974). The value of Bartlett's Test of Sphericity is highly significant indicative of the data's suitability for further statistical analysis hence factorability of the items is considered (Annexure).

The results of Kaiser-Meyer-Olkin (KMO) indicated that the value of KMO was high enough 0.912 (range 0.5-1). This value was greater than 0.5, which means that the data is suitable for factor analysis. By observing the Barlett's value which was 45697.024 with a significance of 0.000 clearly indicated sampling adequacy. Bartlett Test of Spehricity attained the requirement as the significance value was below 0.05 (5%). It assumes that there exists no significant relationship among the variables hence the data is fit for factor analysis.

Communalities

Communalities explain the degree of variance in the observed variables accounted for by the common factors. In exploratory factor analysis, communality is of great relevance. Communality of a variable is the extraction value that has a range of .1 - 1. The commonly accepted value is more than 0.5 (Communalities > 0.5). The degree of strength of association of the variable with the factor is shown by the communalities value. As the value increases than 0.5 and approaches 1, the stronger association of the variable with the established factors is assumed. The communality value depicts of how much a factor is explained by the variable. If communality value of a variable is 0.814, it is assumed that 81.4% of the factor is explained by the respective variable. In the data, it was seen that majority of the variables

have communality values greater than .5 and reaching up to .8, therefore it can be deduced that all variables have explained the factor (Annexure).

Missing Data

In a large data set that is normally distributed, the missing value doesn't become a problem as it is not necessary to replace the missing value (Dancey & Reidy, 2004).

Step II (Phase II)

Exploratory Factor Analysis

Factor analysis is basically a multivariate statistical extraction procedure that is applied to extract a small set of variables from a large number of variables, also known as factors. Basic underlying dimensions are established between the measured variables and the latent constructs, hence, leads to the development and refinement of theory. This procedure gives evidence of construct validity for self- reporting scales (Wiliams, Onsman, & Brown, 2010).

In the study, 107 items of Emotional Intelligence Scale for Children under went factor analysis procedure after pilot study. For the determination of the underlying factor structure of the construct, principal component solution (PCA) was used in order to retain those items that are considered to be fit for inclusion into the final scale as suggested by (Fabrigar, Wegener, MacCallum, & Strahan, 1999; Field, 2005). Before factor analysis 14 items in the item pool were reverse coded.

Exploratory factor analysis was run on 694 participants (primary school children from class 1- class 5). Varimax rotation method was used. 15 factors were obtained that had eigen value greater than 1 and clear loadings through principal component analysis (PC) according to the criterion of Kaiser (1960) (Annexure- J). Orthogonal rotation method was suitable to be used due to low inter- correlations among most of the factors as is observed from the Component transformation matrix (Coakes & Steed, 2003). Items with high factor loadings (absolute value >= .32), having eigen values greater that 1 as explained by Kaiser's rule (Nunnally, 1978), scree plot (Cattell, 1966) and theoretical relevance were retained.

Factor-1

On Factor-1, maximum no of variables have loaded. 13 Items loaded on factor-1 independently and all items indicated high loading (i.e. .67, .74, .75, .77, .75, 76, .79, .74, .80, .68, .65, .64, .64) respectively. These items typically represented the ability to accept change and adjust to new situations. It is the degree of resilience in beginning new tasks and making adjustments in unpredictable situations. It is the cognitive processing of emotions in which an individual is able to accommodate the way he feels, think and act to changing scenarios for improvement, so factor-1 was named as "*Flexibility*". Factor-1 is comprised of 13 variables pertaining to flexibility and 16% of the total variance is accounted for by the first factor. Flexibility is assumed to be the most critical factor explaining the construct in the study.

Table 5

Exploratory Factor Analysis (EFA) of factor I (flexibility)

Items	Factor Items	Factor Loading	Variance Explained	Cronbach' s Alpha
	Flexibility			
Item 1		0.67	16.38%	.94
Item 2		0.74		
Item 3		0.75		
Item 4		0.80		
Item 5		0.77		
Item 6		0.76		
Item 7		0.79		
Item 8		0.74		
Item 9		0.80		
Item 10		0.68		
Item 11		0.65		
Item 12		0.64		
Item 13		0.64		

1 Kaiser-Meyer-Olkin Measure = 0.931 >0 70
2. Bartlett's test of Sphericity was Significant .000 ($x^2(78) = 6625.080$ p <0 05)

Factor-2

On factor- 2, 9 items loaded independently with loading >.4 as shown (.68, .68, .67, .66, .66, .67, .67, .66, .71), and all the items reflected the ability to identify one's different emotions and discriminate among different emotional states along with the understanding of its casual factors, so this factor was labeled as "*Emotional Self Awareness*". Factor 2 is comprised of nine variables and accounted for 11.56 % of the total variance.

Table 6

Exploratory Factor Analysis (EFA) of factor 2 Emotional Self-Awareness

Items	Factor Items	Factor Loading	Variance Explained	Cronbach' s Alpha
	Emotional Self Awareness		11.56%	.88
Item 1		0.68		
Item 2		0.68		
Item 3		0.67		
Item 4		0.66		
Item 5		0.66		
Item 6		0.67		
Item 7		0.67		
Item 8		0.66		
Item 9		0.71		

1 Kaiser-Meyer-Olkin Measure = 0.903 >0 70
2. Bartlett's test of Sphericity was Significant 000 ($x^2(36)$ = 2599 644 p <0 05)

Factor-3

4 Items had high independent loading on factor-3 (.72, .75, .69, .52) and all items reflected tendency to The ability to feel satisfied and feel contented in one's own life pursuit, feel good about others and enjoys life in general. Happiness motivates an individual to perform well efficiently and leads to a sense of well- being, so factor-3 was labeled as "*happiness*". Factor -3 reflects 3.86% of the total variance.

Table 7

Exploratory Factor Analysis (EFA) of factor 3 (happiness)

Items	Factor Items	Factor Loading	Variance Explained	Cronbach' s Alpha
	Happiness			
Item 1		0.72		
Item 2		0.75	3.68%	0.83
Item 3		0.69		
Item 4		0.52		

1 Kaiser-Meyer-Olkin Measure = 0 772 >0 70
2 Bartlett's test of Sphericity was Significant .000($x^2(6) = 1046\ 795$, $p < 0\ 05$)

Factor-4

8 Items had higher and independent loading on factor-4 (.49, .57, .59, .67, .45, .68, .65, .72). All these items were independently loaded on factor-4. All the items reflected the ability to look inside and evaluate oneself. It is the acceptance of one's strengths and weaknesses and respecting oneself with a well-developed sense of self-identity. It is the way one carry and project oneself. Factor-4 reflects 3.86% of the total variance.

Table 8

Exploratory Factor Analysis (EFA) of factor 4 (Self Regard)

Items	Factor Items	Factor Loading	Variance Explained	Cronbach' s Alpha
	Self Regard			
Item I		0.49	3.86%	.82
Item 2		0.57		
Item 3		0.59		
Item 4		0.67		
Item 5		0.45		
Item 6		0.68		
Item 7		0.65		
Item 8		0.72		

1 Kaiser-Meyer-Olkin Measure = 0 814 >0 70

2 Bartlett's test of Sphericity was Significant 000 ($x^2(28)$ = 2054 726. p <0.05)

Factor-5

5 Items loaded on factor-5, all the loadings were independent, had loadings of (.57, .59, .62, .64, .62). Items loaded in factor-5 reflected the ability of an individual to adopt a complex cognitive process that involves flexible, spontaneous, methodical and conscientious approach in coping with challenging situations. The ability to pay attention to a problem, gather information to define and formulate the problem, generate and prioritize solutions to implement the best possible solution, hence the factor was named as "*problem solving*" and 3.09% of the total variance is depicted byfactor-5.

Table 9

Exploratory Factor Analysis (EFA) offactor 5 (problem solving)

Items	Factor Items	Factor Loading	Variance Explained	Cronbach' s Alpha
	Problem Solving			
Item 1		0.57		
Item 2		0.59		
Item 3		0.62	3.09%	0.78
Item 4		0.64		
Item 5		0.62		

1. Kaiser-Meyer-Olkin Measure = 0 736 >0.70

2 Bartlett's test of Sphericity was Significant 000 ($x^2(10)$ = 977 874, p <0.05)

Factor-6

Six items had higher loading (.58, .68, .70, .68, .61, .61) on factor-6. These items represented the capability of an individual to develop and sustain meaningful social relations and to feel satisfied with social relations. It pertains to an individual's ability of awareness and understanding of others' feelings so as to show and receive warmth and affection within those relations, so factor-6 was labeled as "*Social Relations*" (see Annexure-) and this factor shows 2.52% of total variance.

Table 10

Exploratory Factor Analysis (EFA) of factor 6 (social relations)

Items	Factor Items	Factor Loading	Variance Explained	Cronbach's Alpha
	Social Relations			
Item 1		0.58		
Item 2		0.68		
Item 3		0.70	2.52%	0.81
Item 4		0.68		
Item 5		0.61		
Item 6		0.61		

1 Kaiser-Meyer-Olkin Measure = 0.787 >0.70

2 Bartlett's test of Sphericity was Significant .000 ($x^2(12) = 865.692$, $p < 0.05$)

Factor-7

Five items reflected the ability of an individual to accept one's impulses and become composed to control one's aggressive/ disruptive behavior in highly demanding situations. The items that showed higher loadings on factor-7 are (.41, .77, .48, .46, .51, .79, .68). This factor was named as "*impulse control*", and indicated 2.19% of the total variance.

Table 11

Exploratory Factor Analysis (EFA) of factor 7 (impulse control)

Items	Factor Items	Factor Loading	Variance Explained	Cronbach' s Alpha
	Impulse Control			
Item1		0.41		
Item 2		0.77		
Item 3		0.48		
Item 4		0.46	2.19%	
				0.75
Item 5		0.51		
Item 6		0.79		
Item 7		0.68		

1 Kaiser-Meyer-Olkin Measure = 0.756 >0 70

2. Bartlett's test of Sphericity was Significant 000 ($x^2(15)$ = 1139 387, p <0 05

Factor-8

4 Items showed high loadings on factor-8 (in these items, item 24 loaded independently while the other three items 9, 39 and 54 had dual loadings on factor- 1 which was measuring flexibility. Firstly these items has lower loadings on factor -1 as compared to the factor- 8 and secondly, these items had theoretical relevance with stress tolerance so, these items were thought to be retained in factor-8 on theoretical grounds and high loading, These four items reflected the ability to stand against stressful life events without being carried away by it by actively participating and dealing effectively with the stress provoking situation. It is the ability to choose better options, expect positively to overcome the problem and feel confident to control the situation. Such an individual remain composed in adverse situations and anticipates positively in new situations, hence this factor was named as "*stress tolerance*". Factor-8 shows 2.02% of variance.

Table 12

Exploratory Factor Analysis (EFA) of factor 8 (stress tolerance)

Items	Factor Items	Factor Loading	Variance Explained	Cronbach' s Alpha
	Stress Tolerance			
Item 1		0.72		
Item 2		0.75	2.02%	0.88
Item 3		0.69		
Item 4		0.52		

1. *Kaiser-Meyer-Olkin Measure = 0.707 >0.70*
2. *Bartlett's test of Sphericity was Significant 000 ($x^2(6) = 1700.221$, $p < 0.05$*

Factor-9

4 Items had higher loading on factor-9 with high factor loadings of (.74, .79, .73, .79) and item 6 that had dual loadings on factor 1 and factor 9. These items reflect the ability to be sensitive for other's feelings. To show concern for others while putting aside one's own interests and become a loyal and responsible group member. It is the ability of taking and delegating responsibility thus exemplifies oneself as a cooperative group member. So, factor 9 was named as "*empathy*" and 1.90 % of variance is accounted by factor- 9.

Table 13

Exploratory Factor Analysis (EFA) of factor 9 (empathy)

Items	Factor Item	Factor Loading	Variance Explained	Cronbach's Alpha
	Empathy			
Item 1		0.74		
Item 2		0.79	1.90%	0.87
Item 3		0.73		
Item 4		0.79		

1. Kaiser-Meyer-Olkin Measure = 0.783 >0 70
2. Bartlett's test of Sphericity was Significant .000 ($x^2(6) = 1811\ 105$, $p < 0\ 05$)

Factor-10

4 Items loaded on factor-10 and reflected assertiveness. These items had loading of (.61, .64, .66, .69). These items reflected the capability of constructive expression of one's feelings, beliefs and thought pattern, stand for one's rights and follow one's principles confidently and straightforwardly. An individual following his rules, expressing his feelings without becoming aggressive, so this factor was labeled as "*assertiveness*" and 1.75% of variance is accounted for by assertiveness (Annexure).

Table 14

Exploratory Factor Analysis (EFA) of factor 10 (assertiveness)

Items	Factor Items	Factor Loading	Variance Explained	Cronbach' s Alpha
	Assertiveness			
Item 1		0.61		
Item 2		0.64		
Item 3		0.66	1.75%	0.70
Item 4		0.69		

1 Kaiser-Meyer-Olkin Measure = 0 778 >0.70
2. Bartlett's test of Sphericity was Significant 000 ($x^2(6) = 557.352$ $p < 0.05$)

Undefined Factors

Last 5 factors had very ambiguous structure and could not be defined, as no factor comprised of at least 3 variables of similar theoretical perspective (as proposed by Kinear & Gray, 1999), so these scattered variables were excluded from the final Emotional Intelligence Scale for Children (EISC).

Items of self-actualization, reality testing, independence, optimism, and social responsibility were scattered all over the structure and were making no sense in the factor structure, so it was decided to exclude these items from the final scale. In Bar-On EQ-i (1997) independence, self-actualization, reality testing, optimism and social responsibility were excluded from the second analysis (i.e., in confirmatory factor analysis) and they are being used as facilitators of emotional intelligence rather the actual component of emotionally and socially intelligent behavior or construct. Bar-On excluded self-actualization and optimism from final analysis as a number of their items were loaded largely on factor of self- regard and other loaded on additional items.

Factors explored

Ten simple structured factors were retained from the EFA series, which were based on the high factor loadings (.4 or above), eigen value > than 1 as explained by Kaiser's rule (Nunnally, 1978), and theoretical relevance. The reliabilities of all the constructs showed good internal consistency of the items. Therefore, 64 out of 107 items of the item pool were retained (Annexure G). All the ten factors results are summarized in Table 15.

Table 15

Summary for Exploratory Factor Analysis (EFA) Results

Constructs	Items Retained	Kaiser-Meyer Olkin	Bartlett's Test of Sphericity	Cumulative Factor Loading
Flexibility	13	0.931	6625.080	16.38%
Emotional Self Awareness	09	0.903	2599.644	11.56%
Happiness	04	0.772	1046.795	3.68%
Self Regard	08	0.814	2054.726	3.86%
Problem Solving	05	0.736	977.874	3.09%
Social Relations	06	0.823	1189.143	2.52%
Impulse Control	07	0.756	1139.387	2.19%
Stress Tolerance	04	0.707	1700.221	2.02%
Empathy	04	0.783	1811.105	1.90%
Assertiveness	04	0.778	557.352	1.75%

Phase III

Reliability Analysis

Exploratory factor analysis was run to see the factorial validity of the Emotional Intelligence Scale for Children (EISC). In order to find out the internal consistency of the total scale and sub scales reliability analysis was run and internal consistency was examined on a sample of (N = 694).

Table 16

Reliability Coefficients of Total and Subscale of Emotional Intelligence (N=694)

Variable	Alpha coefficients	Split-half reliability	No of items
Flexibility	.94	.92	13
Emotional Self Awareness	.88	.86	9
Happiness	.83	.81	4
Self Regard	.82	.72	8
Problem Solving	.78	.72	5
Social Relations	.81	.79	6
Impulse Control	.77	.78	7
Stress Tolerance	.88	.85	4
Empathy	.87	.92	4
Assertiveness	.69	.70	4
Total EI	.88	.83	64

Note Cronbach's alpha coefficient for total emotional intelligence scale α = 88 and split half reliability is 83 given in Table 16 are excellent for any test (Fieldman, 2005). Cronbach's alpha coefficients for sub - scales of EIS range from α = 69 (assertiveness) to α = 94 (flexibility)

Table 17

Correlations of subscales with total emotional intelligence scale (N=694)

Variable	Correlation
Flexibility	.624**
Emotional Self Awareness	.417**
Happiness	.293*
Self Regard	.517**
Problem Solving	.430**
Social Relationship	.430**
Impulse Control	.484**
Stress Tolerance	.558**
Empathy	.595**
Assertiveness	.308**

*Note p** < .05*

Table showed that the highest correlation is found between flexibility and total score of the items and lowest correlation is found between happiness and total score on the items.

Table 18

Subscale correlation of Emotional Intelligence Scale for Children (EISC) (N=694)

Subscale	Flx	ESA	Happ	SR	PS	SoRlt	ImpC	STol	Emp	Ass
Flx	**1**	-	-	-	-	-	-	-	-	-
ESA	0.32	**1**	-	-	-	-	-	-	-	-
Happ	0.51	0.21	**1**	-	-	-	-	-	-	-
SR	0.36	0.36	0.53	1	-	-	-	-	-	-
PS	0.49	0.46	0.37	0.34	**1**	-	-	-	-	-
SRlt	0.34	0.61	0.46	0.22	0.41	**1**	-	-	-	-
ImpC	0.35	0.46	0.37	0.42	0.45	0.21	1	-	-	-
STol	0.64	0.57	0.43	0.41	0.28	0.36	0.32	1	-	-
Emp	0.45	0.62	0.34	0.57	0.28	0.24	0.43	0.47	1	-
Ass	0.39	0.54	0.64	0.58	0.27	0.27	0.54	0.38	0.48	**1**

Not Note ** *Correlation is significant at the 01 level Flx- Flexibility, ESA= Emotional Self Awareness, Happ= Happiness, SR= Self Regard, PS= Problem Solving, SoRlt= Social Relations, STol= Stress Tolerance, ImpC= Impulse Control, Emp= Empathy, Ass= Assertiveness*

Table 19

Item-Total Correlations of Emotional Intelligence Scale and its Subscales (N = 694)

Item	Item- total correlation	Item	Item-Total Correlation
	Flexibility		Emotional Self Awareness
Flx1	.649	ESA1	.613
Flx2	.732	ESA2	.657
Flx3	.742	ESA3	.609
Flx4	.821	ESA4	.589
Flx5	.794	ESA5	.599
Flx6	.794	ESA6	.622
Flx7	.826	ESA7	.634
Flx8	.765	ESA8	.638
Flx9	.800	ESA9	.657
Flx10	.675		Happiness
Flx11	.568	Happ1	.675
Flx12	.557	Happ2	.727
Flx13	.591	Happ3	.651
		Happ4	.675
	Self- regard		Problem solving
SR1	.432	PS1	.496
SR2	.517	PS2	.536
SR3	.580	PS3	.562
SR4	.598	PS4	.563
SR5	.397	PS5	.563
SR6	.621		Social Relation
SR7	.498	SoRlt1	.521
SR8	.622	SoRlt2	.595
		SoRlt3	.648
		SoRlt4	.507
		SoRlt5	.580
		SoRlt6	.536
			Stress Tolerance
	Impulse control		
ImpC1	.396	STol1	.699
ImpC2	.589	STol2	.708
ImPC3	.501	STol3	.788
ImpC4	.413	STol4	.788
ImpC5	.413		Empathy
ImpC6	.602	Emp2	.711
ImPc7	.503	Emp3	.779
		Emp4	.696
		Emp5	.725
	Assertiveness		
Ass1	.357		
Ass2	.553		
Ass3	.578		
Ass4	.438		

Note ** *Correlation is significant at the 01 level*

Table shows item-total correlations of Emotional Intelligence Scale andits subscales. The correlation coefficients indicate that all the items have significant high correlations ($p < .01$) with their respective subscales and with the total scale. Overall, the scale is internally consistent and valid to measure emotional intelligence of children.

Table 20

Inter- item Correlation for the sub scale of Flexibility of Emotional Intelligence Scale for Children (EISC) (N= 694)

Variable	Flx1	Flx2	Flx3	Flx4	Flx5	Flx6	Flx7	Flx8	Flx9	Flx10	Flx11	Flx12	Flx13
Flx1	1.00												
Flx2	.51	1.00											
Flx3	.41	.22	1.00										
Flx4	.37	.34	.60	1.00									
Flx5	.54	.57	.53	.31	1.00								
Flx6	.41	.59	.35	.27	.38	1.00							
Flx7	.59	.28	.27	.50	.16	.35	1.00						
Flx8	.48	.55	.26	.32	.23	.49	.62	1.00					
Flx9	.55	.52	.37	.39	.28	.50	.37	.24	1.00				
Flx10	.38	.27	.47	.52	.26	.55	.59	.43	.53	1.00			
Flx11	.30	.43	.46	.58	.43	.49	.43	.36	.29	.401.00			
Flx12	.35	.46	.40	.35	.45	.26	.46	.34	.43	.36.55	1.00		
Flx13	.45	.54	.42	.42	.41	.55	.45	.40	.40	.45.33	.46	1.00	

Note. ** *Correlation is significant at the .01 level. Flx= Flexibility*

Table shows correlations among items of Flexibility of EISC. Positive correlation was seen among all items at .01significance level. The Mean of inter-item correlation among 13 items of the dimension of Flexibility lied within the acceptablelimits. According to Briggs and Cheek (1986), .20 to .40 is considered an ideal range for the mean of inter-item correlation.

Table 21

Inter- item Correlation for measure of Emotional Self Awareness of Emotional Intelligence Scale for Children (EISC) (N= 694)

Items	ESA1	ESA2	ESA3	ESA4	ESA5	ESA6	ESA7	ESA8	ESA9
ESA1	1.00								
ESA2	.40	1.00							
ESA3	.32	.52	1.00						
ESA4	.33	.46	.43	1.00					
ESA5	.38	.56	.51	.25	1.00				
ESA6	.50	.30	.36	.39	.39	1.00			
ESA7	.39	.39	.33	.21	.33	.52	1.00		
ESA8	.48	.43	.35	.29	.36	.56	.38	1.00	
ESA9	.37	.36	.37	.33	.42	.42	.408	.24	1.00

*Note ** Correlation is significant at the 01 level ESA= Emotional Self Awareness*

Table presents correlation among the items of Emotional Self Awareness of the items of EISC. Items indicated positive correlation at 0.01 level of significance. The mean inter-item correlation lied within the acceptable range.

Table 22

Inter- item Correlation for measure of Happiness of Emotional Intelligence Scale for Children (EISC) (N= 694)

Items	Happ1	Happ2	Happ3	Happ4
Happ1	1.000			
Happ2	.33	1.000		
Happ3	.21	.50	1.000	
Happ4	.49	.43	.47	1.000

*Note ** Correlation is significant at the .01 levelHapp= Happiness*

Table presents correlation among the items of Happiness of EISC. Items indicated positive correlation at 0.01 level of significance. The mean inter-item correlation lied within the acceptable range.

Table 23

Inter- item Correlation for measure of Self Regard of Emotional Intelligence Scale for Children (EISC) (N= 694)

Items	SR1	SR2	SR3	SR4	SR5	SR6	SR7	SR8
SR1	1.00							
SR2	.55	1.00						
SR3	.50	.28	1.00					
SR4	.18	.24	.27	1.00				
SR5	.39	.50	.31	.49	1.00			
SR6	.26	.38	.39	.36	.34	1.00		
SR7	.28	.48	.24	.41	.30	.31	1.00	
SR8	.43	.22	.20	.26	.32	.36	.37	1.00

*Note. ** Correlation is significant at the 01 level SR= Self Regard*

Table presents correlation among the items of Self Regard of the items of EISC. Items indicated positive correlation at 0.01 level of significance. The mean inter-item correlation lied within the acceptable range.

Table 24

Inter- item Correlation for measure of Problem Solving of Emotional Intelligence Scale for Children (EISC) (N= 694)

Items	PS1	PS2	PS3	PS4	PS5
PS1	1.000				
PS2	.28	1.000			
PS3	.34	.37	1.000		
PS4	.43	.36	.38	1.000	
PS5	.39	.22	.37	.24	1.000

Note ** *Correlation is significant at the .01 level PS= Problem Solving*

Table presents correlation among the items of Problem Solving of the items of EISC. Items indicated positive correlation at 0.01 level of significance. The mean inter-item correlation lied within the acceptable range.

Table 25

Inter- item Correlation for measure of Social Relations of Emotional Intelligence Scale for Children (EISC) (N= 694)

Items	SoRIt1	SoRIt2	SoRIt3	SoRIt4	SoRIt5	SoRIt7
SoRIt1	1.000					
SoRIt2	.49	1.000				
SoRIt3	.37	.57	1.000			
SoRIt4	.27	.49	.40	1.000		
SoRIt5	.36	.30	.45	.43	1.000	
SoRIt7	.42	.34	.34	.24	.47	1.000

Note ** *Correlation is significant at the .01 level. SoRIt= Social Relations*

Table presents correlation among the items of Social Relations of the items of EISC. Items indicated positive correlation at 0.01 level of significance. The mean inter-item correlation lied within the acceptable range.

Table 26

Inter- item Correlation for measure of Impulse control of Emotional Intelligence Scale for Children (EISC) (N= 694)

Items	ImpC1	ImpC2r	ImPC3	ImpC4	ImpC5	ImpC6	ImPc7
ImpC1	1.000						
ImpC2r	.39	1.000					
ImPC3	.39	.39	1.000				
ImpC4	.21	.23	.35	1.000			
ImpC5	.27	.21	.21	.38	1.000		
ImpC6	.30	.47	.36	.22	.22	1.000	
ImPc7	.39	.40	.32	.24	.43	.57	1.000

Note. ** *Correlation is significant at the 01 level ImpC=Impulse Control*

Table presents correlation among the items of Impulse Control of the items of EISC. Items indicated positive correlation at 0.01 level of significance. The mean inter-item correlation lied within the acceptable range.

Table 27

Inter- item Correlation for measure of Stress Tolerance of Emotional Intelligence Scale for Children (EISC) (N= 694)

Items	STol1	STol2r	STol3	STol4
STol1	1.000			
STol2r	.42	1.000		
STol3	.33	.58	1.000	
STol4	.40	.51	.43	1.000

Note ** *Correlation is significant at the 01 level, STol= Stress Tolerance*

Table presents correlation among the items of Stress Tolerance of EISC. Items indicated positive correlation at 0.01 level of significance. The mean inter-item correlation lied within the acceptable range.

Table 28

Inter- item Correlation for measure of Empathy of Emotional Intelligence Scale for Children (EISC) (N= 694)

Items	Emp2	Emp3	Emp4	Emp5
Emp2	1.000			
Emp3	.58	1.000		
Emp4	.43	.47	1.000	
Emp5	.51	.44	.26	1.000

*Note ** Correlation is significant at the 01 level Emp= Empathy*

Table presents correlation among the items of Empathy of the items of EISC. Items indicated positive correlation at 0.01 level of significance, whereas. The mean inter-item correlation lied within the acceptable range.

Table 29

Inter- item Correlation for measure of Assertiveness of Emotional Intelligence Scale for Children (EISC) (N= 694)

Items	Ass1	Ass2	Ass3	Ass4
Ass1	1.000			
Ass2	.33	1.000		
Ass3	.27	.34	1.000	
Ass4	.21	.31	.47	1.000

Note ** *Correlation is significant at the .01 level Ass= Assertiveness*

Table presents correlation among the items of Assertiveness of the items of EISC. Items indicated positive correlation at 0.01 level of significance. The mean inter-item correlation lied within the acceptable range.

Phase IV

Convergent and Discriminant validity of the Scale

Validity of the construct reflects the accuracy of the instrument's measurement. It aids in determining the polarity between the observed variables and expected results of the variables (Rosenthal & Rosnow, 1991). The validity of all the variables was measured by calculating the correlation between constructs. Therefore, all the constructs were significantly correlated to one another and correlation value above than 0.30 as suggested by researchers (Kline, 2005; Shammout, 2007).

Discriminant validity was achieved when the square root of the average variance extracted (AVE) values exceeds the correlations between the measure, provided loadings of indicators are higher against their respective constructs as compared to other constructs (Awang, 2014). Thus, all the constructs in this study achieved the satisfactory level of convergent and discriminant validity criteria (Awang, 2014) as presented in Table below. In this table, all the constructs comprising of emotional intelligence are shown in column one. In column two, construct composite reliability is presented and column three exhibit the average variance extracted (AVE) values. However, all the values of composite reliability (CR) and average variance extracted (AVE) are at acceptable levels (Hair et al., 2006). Further, the diagonal values which are bold is the square root of the AVE values of the constructs, although other values are the correlation among the constructs. In this study, discriminant value has been achieved since all the bold values of each construct are higher than the correlation values between each construct that are mentioned under the bold value of each construct (Awang,2015). All the results are presented in Table below.

Table 30

Composite Reliability (CR) and Average Variance Extracted (AVE) values to confirm convergent and discriminant validity of the scale

Variables	CR	AVE	Flx	ES	Happ	SR	PS	SoRlt	ImpC	STol	Emp	Ass
Flx	.88	.77	**(.87)**	-	-	-	-	-	-	-	-	-
ES	.77	.59	0.32	**(.76)**	-	-	-	-	-	-	-	-
Happ	.73	.53	0.51	0.21	**(.72)**	-	-	-	-	-	-	-
SR	.83	.68	0.36	0.36	0.53	**(0.82)**	-		-	-	-	-
PS	.80	.64	0.49	0.46	0.37	.034	**(.80)**	-	-	-	-	-
SoRlt	.73	.53	0.34	0.61	0.46	0.22	0.41	**(.72)**	-	-	-	-
ImpC	.79	.60	0.35	0.46	0.37	0.42	0.45	0.21	**(.77)**	-	-	-
STol	.73	.62	0.64	0.57	0.43	0.41	0.28	0.36	0.32	**(.78)**	-	-
EMP	.76	.58	0.45	0.62	0.34	0.57	0.28	0.24	0.43	0.47	**(.76)**	-
Ass	.75	.56	0.39	0.54	0.64	0.58	0.27	0.27	0.54	0.38	0.48	**(.74)**

*Note. **Correlation is significant at the .01 level Flx= Flexibility, ESA= Emotional Self Awareness, Happ= Happiness, SR= Self Regard, PS= ProblemSolving,SoRlt=SocialRelations,STol=StressTolerance,Emp=Empathy,Ass=Assertiveness*

Summary

107 items of Emotional Intelligence Scale for Children after pilot study were factor analyzed and the principal component solution was obtained to determine the underlying factor structure of the construct of the emotional intelligence and to retain items for inclusion into the final scale. There were ten (well defined, interpretable, clear and accurate), which were selected on the basis of high factor loadings (> .4), eigen values >1.0 and theoretical relevance. Significant amount of variance (51%) is accounted for by well-defined 10 retained factors. Reliability analysis as well as validity assessment of the scale were determined.

Analysis of Demographic Variables

In this section, t-test for gender, age, class, school type differences and ANOVA for socio economic status for social class differences were calculated to see whether significant differences existed in emotional intelligence scores on the basis of gender, age, class, school type and socio economic status of children.

Table 31

Frequency distribution for gender, age, socio economic status, school type and class of a sample of 694 (N=694)

Variables	Frequency	Percentage %
Gender		
Male	355	51
Female	339	49
Age Group		
7-9 Years	491	71
10-11 Years	203	29
SES		
Low	317	46
Middle	172	25
High	205	29
School Type		
Government	356	51
Private	338	49
Class		
1-3 Class	491	71
4-5 Class	203	29

Table 32

Mean, standard deviation, and t-values of Scores of Boys and Girls on Total Emotional Intelligence Scale for Children (EISC) and Components of EISC (N=694)

Variable	Boys		Girls		*t*	*P*
	M	*SD*	*M*	*SD*		
EI	2.82	.28	3.50	.34	36.19	.000
Flex	2.23	.86	3.16	.88	22.34	.062
ESA	3.64	.62	3.69	.95	11.04	.000
Happ	4.12	.89	3.82	.98	17.37	.011
SR	2.48	.51	3.21	.85	20.56	.067
PS	3.67	.95	3.19	.73	14.11	.031
SoRlt	3.27	.78	3.61	.81	8.98	.001
ImpC	2.28	.68	3.67	.78	22.58	.001
STol	2.34	1.04	3.38	1.02	21.06	.012
Emp	2.44	.99	3.77	.75	30.12	.000
Ass	3.44	.66	3.13	1.05	6.82	.010

Note * $P < .05$ *Flx= Flexibility, ESA= Emotional Self Awareness, Happ= Happiness, SR= Self Regard, PS= Problem Solving, SoRlt= Social Relations, STol= Stress Tolerance, Emp= Empathy, Ass= Assertiveness*

Results showed significant differences between the scores of girls and boys on the total scores of EISC with girls having high mean scores as compared to boys. On the sub scales of Emotional Self Awareness, Social Relations, Impulse Control, Stress Tolerance and Empathy there were significant differences between girls and boys with girls having high mean scores as compared to boys. While, on the subscales of Happiness, Problem Solving and Assertiveness significant differences were found with boys showing high scores as compared to girls. However, on the subscales of were found between the two groups.

Table 33

Mean, std dev, and t-values of Scores of different age groups on Total Emotional Intelligence Scale for Children (EISC) and Sub Scales of EISC (N=694)

Variable	7 – 9 Years		>9 Years		*t*	*p*
	M	*SD*	*M*	*SD*		
EI	3.1	.41	3.4	.44	.11	.472
Flex	2.6	.97	2.8	1.07	3.04	.000
ESA	3.7	.63	3.9	1.01	.09	.642
Happ	3.6	1.08	3.7	.93	1.65	.011
SR	3.2	.67	3.6	.84	15.45	.001
PS	3.4	.89	3.3	.88	1.5	.435
SoRlt	3.4	.84	3.4	.77	1.39	.405
ImpC	2.5	.87	2.8	.83	1.72	.031
STol	2.7	1.1	2.9	1.2	2.63	.000
Emp	3.1	1.1	3.2	1.1	.43	.431
Ass	3.1	.85	3.3	.93	4.34	.001

Note * $P < .05$ *Flx= Flexibility, ESA= Emotional Self Awareness, Happ= Happiness, SR= Self Regard, PS= Problem Solving, SoRlt= Social Relations, STol= Stress Tolerance, Emp= Empathy, Ass= Assertiveness*

Results show that there are no significant differences between the two age groups on the total scores of EIS- C but significant differences were found in its sub scales likeflexibility, self regard, assertiveness, impulse control, stress tolerance, where children of higher age group (10 and 11 years) showed high mean score as compared to children of lower age group(7- 9 years). On the sub scale ofhappiness, Children of lower age group (7- 9 years) had high mean score and showed significant difference as compared to older children. While, on the subscales of Emotional Self Awareness, Social Relation, Problem Solving and Empathy, there were no significant difference for the two age groups.

Table 34

Mean, std dev, and t-values of Scores of different Classes on Total Emotional Intelligence Scale for Children (EISC) and Sub Scales of EIS-C (N=694)

Variable	1-3 Class		4-5 Class		*t*	*p*
	M	*SD*	*M*	*SD*		
EI	3.1	.42	3.2	.45	.04	.091
Flex	2.2	.97	2.6	1.04	2.95	.072
ESA	3.7	.64	.71	1.01	.15	.065
Happ	3.6	1.07	3.5	.93	1.51	.066
SR	2.6	.67	3.2	.84	5.57	.031
PS	3.4	.91	3.5	.86	1.62	.083
SoRlt	3.5	.84	3.4	.74	1.32	.076
ImpC	2.6	.84	2.9	.82	7.06*	.000
STol	2.6	1.10	2.7	1.22	2.74	.071
Emp	3.1	1.12	3.1	1.13	.39	.082
Ass	3.3	.86	3.5	.93	4.24	.011

Note * $P < .05$ *Flx= Flexibility, ESA= Emotional Self Awareness, Happ= Happiness, SR= Self Regard, PS= Problem Solving, SoRlt= Social Relations, STol= Stress Tolerance, Emp= Empathy, Ass= Assertiveness*

Results indicated that there are no significant differences between the scores of classes 1-3 and 4-5 on the total scores of EISC but significant differences were found in its sub scales like self regard, assertiveness and impulse control by children ofclass 4-5 with high mean scores as compared to children of class 1-3. While, on the subscales of Flexibility, Emotional Self Awareness, Happiness, Problem Solving, Social Relation, Stress Tolerance and Empathy there were no significant difference for the two class groups.

Table 35

Mean, standard deviation, and f-values of Scores of different Socio economic classes on Total Emotional Intelligence Scale for Children (EIS- C) and Components of EIS-C (N=694)

Variable	High		Middle		Low		*F*	*p*
	M	*SD*	*M*	*SD*	*M*	*SD*		
EI	3.2	.47	3.1	.38	3.1	.41	27.63	.000
Flex	2.8	.94	2.4	1.01	2.9	.95	47.13	.003
ESA	3.6	.80	3.6	.78	3.6	.80	.38	.066
Happ	3.5	1.1	3.6	11.01	3.8	.98	11.52	.021
SR	2.9	.84	2.7	.67	2.8	.87	8.98	.031
PS	3.3	.92	3.4	.87	3.4	.86	1.07	.071
SoRlt	3.3	.80	3.5	.79	3.1	.80	15.27	.091
ImpC	2.9	.79	2.6	.87	2.7	.84	24.87	.084
STol	3.1	1.12	2.6	1.10	2.9	1.11	40.91	.000
Emp	2.9	1.23	3.2	1.13	3.2	1.11	9.76	.003
Ass	3.4	.89	3.2	.79	3.3	.99	4.92	.001

Note * $P < .05$. *Flx= Flexibility, ESA= Emotional Self Awareness, Happ= Happiness, SR= Self Regard, PS= Problem Solving, SoRlt= Social Relations, STol= Stress Tolerance, Emp= Empathy, Ass= Assertiveness*

Results showed significant differences between the total scores of High, Middle and Low class presenting high mean scores on the total scale scores of EISC for High class as compared to the Middle and Low class. The mean scores on the sub scales Flexibility, Happiness and Empathy are high for the Low class as compared to the Middle and High class. While, the mean scores of High class are high on the sub scales of Self Regard, Stress Tolerance and Assertiveness as compared to the middle and low class. However, no significant differences were found among the three groups on the subscales of Emotional Self Awareness, Problem Solving, Social Relations and Impulse Control.

Table 36

Mean, std dev, and t-values of Scores of Government and Private School students on Total Emotional Intelligence Scale for Children (EISC) and Sub Scales of EISC (N=694)

Variable	Govt. School		Pvt. School		*t*	*p*
	M	*SD*	*M*	*SD*		
EI	3.1	.39	3.2	.45	3.53	.000
Flex	2.7	.99	2.6	.86	1.21	.021
ESA	3.7	.80	3.8	.85	1.72	.011
Happ	3.7	1.01	3.6	1.04	2.63	.081
SR	2.6	.71	2.8	.79	.64	.000
PS	3.5	.87	3.4	.90	1.22	.423
SoRlt	3.5	.82	3.4	.79	3.23	.041
ImpC	2.6	.87	2.8	.82	3.44	.031
STol	2.9	1.1	2.8	1.2	1.90	.091
Emp	3.2	.82	3.5	.87	.71	.073
Ass	2.2	.91	2.9	1.1	3.18	.066

Note * $P < .05$. *Flx= Flexibility, ESA= Emotional Self Awareness, Happ= Happiness, SR= Self Regard, PS= Problem Solving, SoRlt= Social Relations, STol= Stress Tolerance, Emp= Empathy, Ass= Assertiveness*

Results show that there are significant differences between the scores of students of private and government schools with high mean scores of students of private schools as compared to the students of government schools. The mean scores on the sub scales of Flexibility and Social Relations were high for the students of government schools while the mean scores on the subscale of Emotional Self Awareness, Self-Regard and impulse control was high for the students of private schools. On the rest of the sub scales, there were no significant differences between the students of the government and private schools.

Discussion

Phase I was intended at the development of an indigenous self- report measure of the trait EI and analysis of its psychometric properties. A multi- faceted model of EI grounded on the concept of ESI introduced by Bar- On provided the theoretical foundation to the study. According to its originator, it is a mixed- model approach enfolding nearly every dimension of emotional intelligence construct (Bar- on, 2004). The proponents of trait EI models propose Emotional intelligence to be a synchronization of skills, competencies and varied traits rather than ability. However, a trait emotional intelligence measure for children is required that can assess the EI level of children in the country's cultural context. So, it provided an impetus for the development of scale of EI specifically for children.

The study started with the collection of it clear, comprehensive and purposeful items to be accumulated in the item pool. For this purpose in depth research study contributed to the pool as well as consultation and discussion with teachers, parents and experts in the field furnished the item pool. These items were further refined in the form of clear, valid, simple statements for the appropriate for children. The item pool was examined by experts of the committee in two separate sittings. Items were assessed for its validity, comprehensibility, and language structure. The items were reduced in number, language structure was checked thoroughly and items were finalized by the committee members. Pilot study was conducted to check the reliability of items. All the items proved to be considerably reliable however, minor changes took place in the language of the items, as some children faced difficulty in the understanding of language. The final items underwent normality analysis, and statistical checks of normality were applied to ascertain factor analysis. The normality checks approved the items for factor structuring of the items. The principal component analysis administration to 107 items related to EI seemed helpful in sorting out the relevant factors of emotional intelligence existing in the Pakistani context. Items that evinced conceptual calibration to each other, indicated

greater than 1 Eigen value, demonstrated high factor loadings (.4 or greater) were kept in the factor structure. Resultantly, 64 items depicting ten facets, explaining a combined variance of 51% arose. The extracted factors by varimax orthogonal rotation exhibited clear similitude with the factor structure of the Bar- On Model of social emotional intelligence (1997, 2000): later on, instigated the Bar-On emotional quotient Inventory (EQ-i, 1997).

The reliability analysis of the factors revealed the measure to internally consistent showing high value of Cronbach's alpha α = .88 and split half reliability = .83 for the total scale. Similarly, the ten extracted factors yielded fairly high Cronbach's alpha values of .7 and greater (α = .69 for assertiveness and α = .94 for flexibility) while split half reliability ranged from .70 (assertiveness) to .92 (empathy and flexibility).

Considerable inter correlations were seen among the factors as discussed in detail above. Significantly high correlation (.62) was seen for flexibility and total EI however a correlation of (.29) between happiness and total EI was noticed as well. Results of t-test for gender, age, type of school and class of the students and f- test for socio economic class of the students showed that there were significant differences according to gender and type of school of the students on total EIS- C. Whereas, no significant differences were found on the basis of age and class on the total EIS-C. The results of ANOVA for finding any differences on the basis of socio economic class showed significant results on total EI scores. However, there are subscale variation in relation to the significance of association of these demographic characteristics to emotional intelligence that are depicted with each demographic assessment.

Study II

Relationship of Emotional Intelligence and Academic Achievement

In this section relationship between emotional intelligence and academic achievement has been shown explicitly. Descriptive statistics and correlation analysis were run to see the association between academic achievement and emotional intelligence.

Objectives

1. To explore a new area of research by establishing the connection of emotional intelligence with academic achievement hence, the construct of emotional intelligence as it exists in children will further be redefined.

2. To investigate the correlation of EI and major demographic variables of age, gender, socio economic status, class and type of school of children.

Hypotheses

1. Emotional intelligence of Children is positively correlated with academic achievement.
2. Girls have high emotional intelligence as compared to boys on emotional intelligence scale for children.
3. Emotional intelligence is positively correlated with age in both boys and girls groups.
4. Students of private schools show high EI scores as compared to government school students in both boys and girls groups.

5. Students belonging to higher socio economic status have high Emotional intelligence as compared to students of middle and lower socioeconomic students in both boys and girls groups.

Sample

Sample of 394 individuals was recruited from Peshawar and Islamabad (boys =195 & girls = 199). The age ranged between 07 and 11 years (mean= 3.18, S.D.= .38). Anon- probability sampling technique called purposive sampling strategy was used.

Research Design

The researcher used a co relational design to investigate the possibility of a relationship between emotional intelligence and academic achievement. Emotional intelligence of the students was measured by EIS- C, whereas, academic achievement was measured by annual percentages at primary school level.

Therefore, the main purpose of this study was to investigate the possibility of a relationship between EI and Academic Achievement.

Instruments

Emotional Intelligence Scale for Children

Emotional Intelligence Scale for children was developed in the first study of the current research (*See Appendix*). EISC consists of 64 items encompassing ten sub scales (1) Flexibility, (2) Emotional Self Awareness, (3) Happiness, (4) Self Regard, (5) Problem Solving, (6) Social Relations, (7) Stress Tolerance, (8) Impulse Control, (9) Empathy, and (10) Assertiveness. The response pattern of the scale is based on five-point Likert scale ranging from Always (5) to never (1). The minimum score range from 5 to a maximum of

320. Low scores indicate low emotional intelligence while higher scores indicate high emotional intelligence. Inter-item and Item-total correlations of EISC are depicted in Chapter III. EISC demonstrated high internal consistency, with Cronbach's Alpha coefficients range from .69 of .94.The Cronbach's alpha for the overall EISC is.83.

Academic Achievement

"Achievement encompasses student ability and performance; it is multidimensional; it is intricately related to human growth and cognitive, emotional, social, and physical development; it reflects the whole child; it is not related to a single instance, but occurs across time and levels, through a student's life in public school and on into post-secondary years and working life" (Steinberger, 1993). Similarly, Merriam Webster has defined the term achievement as "the quality and quantity of a student's work." This second definition is the one that more or less applies to this research, the former being too exhaustive. What we need here is the quality of the students' work; the mean of their overall grades during the current year.

Procedure

Subjects of the study were approached personally at schools. Prior permission was sought from the principals of the schools. They were briefed about the purpose of the study. A written consent form was handed over to each of the student by their teachers to get it filled by the parent or guardian. In the next visit, questionnaires were distributed among the students. They filled-up the questionnaires at the spot and ambiguities were clarified to them. Subjects were asked to take their time in filling up the questionnaires and it took 30 –35 minutes to complete the questionnaire. The scale has a reading level of grade four. So, the students from grade one to grade three filled the items by reading it to them while the students of grade four and grade five filled the items independently.

Response Rate

Data was collected from children of major cities of Pakistan. A total of 420 questionnaires were distributed in different schools through teachers. There were 26 questionnaires found to be incomplete, hence these items were disqualified from the sample size of this study. After screening the data, 394 responses were obtained.

Table 37

Descriptive statistics for Gender, Age, Socioeconomic status, School Type and Class of sample of 394 (N= 394)

Variables	Frequency	Percentage %
Gender		
Girls	199	50.5
Boys	195	49.5
Age Group		
7-9 Years	257	65.2
10-11 Years	137	34.8
SES		
Low	135	31.5
Middle	135	34.3
High	124	34.3
School Type		
Government	191	48.5
Private	203	51.5
Class		
1-3 Class	257	65.2
4-5 Class	137	34.8

Hypotheses Testing

Table 38

Pearson Correlation between Emotional Intelligence and Academic Achievement

Variable	*N*	*M*	*SD*	*R*	*p*
Academic Achievement	394	73.49	10.21	.501**	.000
Emotional Intelligence	394	3.18	.39		

***Correlation is significant at 01 level (2- tailed)*

Three hundred and ninety four students were assessed about EI (M= 3.18, SD= .39) and Academic Achievement (M= 73.49, SD= 10.21). The coefficient of correlation of 0.501 showed that the two variables Emotional Intelligence are and Academic Achievement are statistically significant. The correlation result suggested that Emotional Intelligence of students and their Academic Achievement have a relationship with each other.

Table 39

Pearson Correlation between the sub scale of Flexibility and Academic Achievement

Variable	*N*	*M*	*SD*	*r*	*p*
Academic achievement	394	73.49	10.21	.129	.073
Flexibility	394	3.55	.76		

***Correlation is significant at .01 level (2- tailed)*

Three hundred and ninety four students were assessed for Flexibility (M= 3.55, SD= .76) and Academic Achievement (M= 73.49, SD= 10.21). The coefficient of correlation (0.129) was not significant for the two variables Flexibility and Academic Achievement. The correlation result suggested no significant relationship between Flexibility and academic achievement of students.

Table 40

Pearson Correlation between the sub scale of Emotional Self- Awareness and Academic Achievement

Variable	*N*	*M*	*SD*	*r*	*p*
Academic achievement	394	73.49	10.21	.132	.064
Emotional Self Awareness	394	3.21	.64		

***Correlation is significant at 01 level (2- tailed)*

Three hundred and ninety four students were assessed about EI (M= 3.21, SD= .64) and Academic Achievement (M= 73.49, SD= 10.21). The coefficient of correlation (0.132) was not significant for the two variables Emotional Self Awareness and Academic Achievement. The correlation result suggested no significant relationship between Emotional Self Awareness and academic achievement of students.

Table 41

Pearson Correlation between Happiness and Academic Achievement

Variable	*N*	*M*	*SD*	*r*	*p*
Academic achievement	394	73.49	10.21	.097	.176
Happiness	394	3.43	1.07		

** *Correlation is significant at 01 level (2- tailed)*

Three hundred and ninety four students were assessed for Happiness (M= 3.43, SD= 1 07) and Academic Achievement (M= 73.49, SD= 10.21). The coefficient of correlation (0.097) was not significant for the two variables Happiness and Academic Achievement. The correlation result suggested no significant relationship between happiness and academic achievement of students.

Table 42

Pearson Correlation between the sub scale of Self Regard and Academic Achievement

Variable	*N*	*M*	*SD*	*r*	*p*
Academic achievement	394	73.49	10.21	.328**	.000
Self Regard	394	2.70	.72		

** *Correlation is significant at 01 level (2- tailed)*

Three hundred and ninety four students were assessed for Self Regard (M= 2.70, SD= .72) and Academic Achievement (M= 73.49, SD= 10.21). The coefficient of correlation (0.328) was significant for the two variables Self Regard and Academic Achievement. The correlation result suggested a relationship between Self Regard and Academic Achievement of students.

Table 43

Pearson Correlation between Problem Solving and Academic Achievement

Variable	*N*	*M*	*SD*	*r*	*p*
Academic achievement	394	73.49	10.21	.223**	.002
Problem Solving	394	3.47	.82		

***Correlation is significant at .01 level (2- tailed)*

Three hundred and ninety four students were assessed for Problem Solving (M= 3.47, SD= .82) and Academic Achievement (M= 73.49, SD= 10.21). The coefficient of correlation (0.223) was significant for the two variables Problem Solving and Academic Achievement. The correlation result suggested a relationship between Problem Solving and Academic Achievement of students.

Table 44

Pearson Correlation between Social Relations and Academic Achievement

Variable	*N*	*M*	*SD*	*r*	*p*
Academic achievement	394	73.49	10.21	.205**	.04
Social Relations	394	3.47	.87		

***Correlation is significant at 01 level (2- tailed)*

Three hundred and ninety four students were assessed for Social Relations (M= 3.47, SD= .87) and Academic Achievement (M= 73.49, SD= 10.21). The coefficient of correlation (.205) was significant for the two variables Social Relations and Academic Achievement. The correlation result suggested a relationship between Social Relations and Academic Achievement of students.

Table 45

Pearson Correlation between the sub scale of Impulse Control and Academic Achievement

Variable	*N*	*M*	*SD*	*r*	*p*
Academic achievement	394	73.49	10.21	.215**	.02
Impulse Control	394	2.99	.91		

** *Correlation is significant at 01 level (2- tailed)*

Three hundred and ninety four students were assessed for Self Regard (M= 2.99, SD= .91) and Academic Achievement (M= 73.49, SD= 10.21). The coefficient of correlation (0.215) was significant for the two variables Impulse Control and Academic Achievement. The correlation result suggested a relationship between Self Control and Academic Achievement of students.

Table 46

Pearson Correlation between Stress Tolerance and Academic Achievement

Variable	*N*	*M*	*SD*	*r*	*p*
Academic achievement	394	73.49	10.21	.225**	.002
Stress Tolerance	394	2.94	1.02		

** *Correlation is significant at 01 level (2- tailed)*

Three hundred and ninety four students were assessed for Stress Tolerance (M= 2.94, SD= 1.02) and Academic Achievement (M= 73.49, SD= 10.21). The coefficient of correlation (0.225) was significant for the two variables Stress Control and Academic Achievement. The correlation result suggested a relationship between Stress Control and Academic Achievement of students.

Table 47

Pearson Correlation between the sub scale of Empathy and Academic Achievement

Variable	*N*	*M*	*SD*	*r*	*p*
Academic achievement	394	73.49	10.21	.390**	.000
Empathy	394	3.39	1.01		

** *Correlation is significant at 01 level (2- tailed)*

Three hundred and ninety four students were assessed for Empathy (M= 3.39, SD= 1.01) and Academic Achievement (M= 73.49, SD= 10.21). The coefficient of correlation (0.390) was significant for the two variables Empathy and Academic Achievement. The correlation result suggested a relationship between Empathy and Academic Achievement of students.

Table 48

Pearson Correlation between the sub scale of Assertiveness and Academic Achievement

Variable	*N*	*M*	*SD*	*r*	*p*
Academic achievement	394	73.49	10.21	.249**	.000
Assertiveness	394	3.34	.92		

** *Correlation is significant at 01 level (2- tailed)*

Three hundred and ninety four students were assessed for Assertiveness (M= 3.34, SD= .92) and Academic Achievement (M= 73.49, SD= 10.21). The coefficient of correlation (0.249) was significant for the two variables Assertiveness and Academic Achievement. The correlation result suggested a relationship between Assertiveness and Academic Achievement of students.

Three hundred and ninety four students were assessed to see the relationship between Emotional Intelligence and its sub scales with Academic Achievement. Results indicated that the two variables Emotional Intelligence are and Academic Achievement are statistically significant. The correlation results suggested that Emotional Intelligence of students and their Academic Achievement have a relationship with each other. As far as the Sub Scales are concerned, Self Regard, Problem Solving, Social Relations, Impulse Control, Stress Tolerance, Empathy and Assertiveness showed significant relationship with Academic Achievement Whereas, the Sub Scales of Flexibility, Emotional Self Awareness and Happiness showed no significant correlation with Academic Achievement.

Table 49

Mean, standard deviation, and t-values of Scores of Boys and Girls on Total Emotional Intelligence Scale for Children (EISC) and Sub scales of EISC (N= 394)

Variable	Boys		Girls		*t*	*p*
	M	*SD*	*M*	*SD*		
EI	3.00	.41	3.36	.28	7.08	.000
Flex	3.66	.81	3.44	.71	2.09	.082
ESA	3.67	.81	3.69	.73	2.14	.001
Happ	3.92	.96	3.04	.98	6.29	.021
SR	2.83	.78	2.62	.66	2.06	.091
PS	3.20	.92	3.18	.62	5.15	.023
SRlt	3.42	.79	3.57	.92	1.25	.001
ImpC	2.51	.84	3.50	.67	9.11	.075
STol	2.40	1.14	3.49	.56	7.47	.021
Emp	2.72	1.12	3.81	.67	6.68	.000
Ass	3.51	.81	3.47	1.01	2.02	.000

Note * $P < .05$ *Flx= Flexibility, ESA= Emotional Self Awareness, Happ= Happiness, SR= Self Regard, PS= Problem Solving, SoRlt= Social Relations, STol= Stress Tolerance, Emp= Empathy, Ass= Assertiveness*

Results showed significant differences between the scores of girls and boys on the total scores of EISC with girls having high mean scores as compared to boys. On the sub scales of Emotional Self Awareness, Social Relations, Stress Tolerance and Empathy there were significant differences between girls and boys with girls having high mean scores as compared to boys. While, on the subscales of Happiness, Problem Solving and Assertiveness significant differences were found with boys showing high scores as compared to girls. However, on the subscales of Flexibility, Self-Regard and Impulse Control, no significant differences were found between the two groups.

Table 50

Mean, standard deviation, and t-values of Scores of two age groups (7-9 years) and (10- 11 years) on Total Emotional Intelligence Scale for Children (EISC) and Sub Scales of EISC (N= 394)

Variable	7 – 9 Years		>9 Years		*t*	*p*
	M	*SD*	*M*	*SD*		
EI	3.22	.41	3.11	.36	1.86	.091
Flex	3.57	.78	3.51	.72	4.70	.081
ESA	3.71	.67	3.78	1.01	.93	.064
Happ	3.38	1.08	3.27	1.01	1.91	.011
SR	2.61	.77	2.70	.63	.90	.071
PS	3.57	.79	3.36	.90	1.70	.092
SoRlt	3.61	.79	3.27	.94	2.73	.651
ImpC	3.22	.89	3.66	.79	4.58	.000
STol	2.85	1.08	3.01	.98	.28	.031
Emp	3.41	1.06	3.30	.93	.74	.061
Ass	3.49	.85	3.97	.99	3.09	.022

Note * $P < .05$ *Flx= Flexibility, ESA= Emotional Self Awareness, Happ= Happiness, SR= Self Regard, PS= Problem Solving, SoRlt= Social Relations, STol= Stress Tolerance, Emp= Empathy, Ass= Assertiveness*

Results show that there are no significant differences between the two age groups on the total scores of EIS- C but significant differences were found in its sub scales of assertiveness, impulse control, stress tolerance, where children of higher age group (10 and 11 years) showed high mean score as compared to children of lower age group (7- 9 years). On the sub scale of happiness, Children of lower age group (7- 9 years) had high mean scores. While, on the subscales of Emotional Self Awareness, Flexibility, Self-Regard, Social Relation, Problem Solving and Empathy, there were no significant difference for the two age groups.

Table 51

Mean, standard deviation, and t-values of Scores of Government and Private School students on Total Emotional Intelligence Scale for Children (EISC) and Sub scales of EISC (N=394)

Variable	Govt. School		Pvt. School		*t*	*p*
	M	*SD*	*M*	*SD*		
EI	3.12	.39	3.24	.45	2.15	.000
Flex	3.54	.99	3.46	.87	.16	.004
ESA	3.54	.80	3.56	.87	.71	.002
Happ	3.67	1.01	3.26	.98	2.78	.072
SR	2.57	.71	2.89	.76	3.03	.003
PS	3.57	.87	3.42	.78	1.25	.092
SoRlt	3.52	.82	3.47	.83	.38	.011
ImpC	2.01	.87	3.04	.86	.46	.002
STol	2.75	1.1	3.07	1.1	2.19	.083
Emp	3.25	.82	3.45	.97	1.51	.001
Ass	3.22	.91	3.15	.89	2.27	.000

Note * $P < .05$. *Flx– Flexibility, ESA= Emotional Self Awareness, Happ= Happiness, SR= Self Regard, PS= Problem Solving, SoRlt= Social Relations, STol= Stress Tolerance, Emp= Empathy, Ass= Assertiveness*

Results show that there are significant differences between the scores of government and private schools on the total scores of EISC, showing high mean scores for the students of private school students. The mean scores on the sub scales of Flexibility, Social Relations and Empathy were high for the students of government schools while the mean scores on the subscale of Emotional Self Awareness, Self-Regard and impulse control and Assertiveness were high for the students of private schools. On the rest of the sub scales, there were no significant differences between the students of the government and private schools.

Table 52

Mean, standard deviation, and t-values of Scores of different Classes on Total Emotional Intelligence Scale for Children (EISC) and Subscales of EISC (N=394)

Variable	1-3 Class		4-5 Class		*t*	*p*
	M	*SD*	*M*	*SD*		
EI	3.22	.41	3.11	.36	1.86	.061
Flex	3.57	.78	3.52	.73	.48	.011
ESA	3.72	.79	3.73	.80	.45	.091
Happ	3.58	1.07	3.27	1.01	1.91	.001
SR	2.69	.77	2.79	.63	.90	.003
PS	3.57	.79	3.36	.90	1.70	.083
SoRlt	3.11	.79	3.27	.94	2.73	.081
ImpC	3.22	.89	3.62	.70	4.57	.071
STol	2.85	1.08	3.01	.98	.93	.000
Emp	3.41	1.06	3.30	.93	.74	.061
Ass	3.19	.85	3.27	.99	3.09	.002

Note * $P < .05$ *Flx= Flexibility, ESA= Emotional Self Awareness, Happ= Happiness, SR= Self Regard, PS= Problem Solving, SoRlt= Social Relations, STol= Stress Tolerance, Emp= Empathy, Ass= Assertiveness*

Results indicated that there was no significant difference between the scores of classes 1-3 and 4-5 on the total scores of EISC but significant differences were found in the sub scales of Self Regard, Stress Tolerance and Assertiveness by children of class 1-3 and 4-5 with high mean score of class 4-5 as compared to children of class 1-3. While, on the subscales of Flexibility and Happiness, the mean scores of class 1-3 were high as compared to children of class 4- 5. Emotional Self Awareness, Problem Solving, Social Relation, Impulse Control and Empathy there were no significant difference for the two class groups.

Table 53

Mean, standard deviation, and f-values of Scores of different Socio economic classes on Total Emotional Intelligence Scale for Children (EISC) and Sub Scales of EISC (N= 394)

Variable	High		Middle		Low		*f*	*p*
	M	*SD*	*M*	*SD*	*M*	*SD*		
EI	3.25	.43	3.22	.39	3.11	.35	1.31	.000
Flex	3.55	.75	3.60	.75	3.69	.79	.37	.002
ESA	3.54	.75	3.56	.73	3.39	.69	.37	.092
Happ	3.43	1.04	3.56	1.05	3.62	1.10	.33	.003
SR	3.37	.82	3.52	.81	3.62	.86	1.45	.003
PS	2.56	.86	2.22	.71	2.10	.56	2.59	.277
SoRlt	3.54	.81	3.56	.84	3.88	.93	.86	.001
ImpC	3.22	.87	3.01	.80	2.80	1.01	3.38	.472
STol	2.99	.98	2.97	1.04	2.74	1.11	1.11	.002
Emp	3.49	1.01	3.43	1.01	3.20	1.04	1.46	.001
Ass	3.33	.96	3.36	.96	3.34	.87	.02	.000

Note * *P* < .05 *Flx= Flexibility, ESA= Emotional Self Awareness, Happ= Happiness, SR= Self Regard, PS= Problem Solving, SoRlt= Social Relations, STol= Stress Tolerance, Emp= Empathy, Ass= Assertiveness*

Results showed significant differences between the total scores of High, Middle and Low class presenting high mean scores on the total scale scores of EISC for High class as compared to the Middle and Low class. The mean scores on the sub scales Flexibility, Happiness and Social Relations were high for the Low class as compared to the Middle and High class. While, the mean scores of High class are high on the sub scales of Self Regard, Stress Tolerance, Empathy and Assertiveness as compared to the middle and low class. However, no significant differences were found among the three groups on the subscales of Emotional Self Awareness, Problem Solving, Impulse Control and Social Relations.

Discussion

Study II was intended to look for the relationship between emotional intelligence and academic achievement of students. Three hundred and ninety four students from primary schools (Government & private) were involved in the study. The students were assessed with the researcher's developed Emotional Intelligence Scale for Children to see the relationship between Emotional Intelligence and its sub scales with their Academic Achievement. The two variables Emotional Intelligence are and Academic Achievement showed considerable association with each other. The correlation results suggested that the non- cognitive aspects of intelligence have an impact on the academic achievement of children. So, this finding is an impetus for further research as in conventional schooling of the country. Cognitive intelligence is the sole center of attention and little or no attention is paid to the non-intellective aspects of a child's personality. The sub scale correlations of different factors of emotional intelligence scale have also been correlated with academic achievement and association has been observed. The subscales of Self Regard, Problem Solving, Social Relations, Impulse, Control, Stress Tolerance, Empathy and Assertiveness showed significant relationship with Academic Achievement whereas, the sub scales of Flexibility, Emotional Self Awareness and Happiness showed no significant correlation with Academic Achievement.

Results of t-test for gender, age, type of school, and f- test for socio economic class of the students showed that there were significant differences according to gender and type of school of the students on total EIS- C. whereas, no significant differences were found on the basis of age and class on the total EIS-C. The results of ANOVA for finding any differences

on the basis of socio economic class showed significant results on total EI scores. However, there are subscale variation in relation to the significance of association of these demographic characteristics to emotional intelligence that are depicted with each demographic assessment.

The findings regarding gender differences between the scores of girls and boys on the total scores of EISC, showed girls obtaining high mean scores as compared to boys. On the sub scales of Emotional Self Awareness, Social Relations, Stress Tolerance and Empathy there were significant differences between girls and boys with girls with high mean scores as compared to boys. While, on the subscales of Happiness, Problem Solving and Assertiveness significant differences were found where boys showed high scores as compared to girls. However, on the subscales of Flexibility, Self-Regard and Impulse Control, no significant differences were found between the two groups.

The findings regarding the association of age difference regarding emotional intelligence showed that there exists no significant difference between the two age groups on the total scores of EIS- C. The reason for the current findings led to the assumption that the children in the two groups belong to a single developmental period, (late childhood period) so no obvious association was seen. However, regarding the subscale association, significant differences were found. Regarding the sub scales of assertiveness, impulse control, stress tolerance, it was observed that children of higher age group (10 and 11 years) showed high mean score as compared to children of lower age group (7- 9 years). On the sub scale of happiness, Children of lower age group (7- 9 years) had high mean score. While, on the subscales of Emotional Self Awareness, Flexibility, Self-Regard, Social Relation, Problem Solving and Empathy, there were no significant difference for the two age groups.

The construct of emotional intelligence when correlated with the type of school, it was observed that there were significant differences between the scores of government and private

schools on the total scores of EISC, showing high mean scores for the students of private school students. The mean scores on the sub scales of Flexibility, Social Relations and Empathy were high for the students of government schools while the mean scores on the subscale of Emotional Self Awareness, Self-Regard and impulse control and Assertiveness were high for the students of private schools. However, on the other sub scales, there were no significant differences between the students of the government and private schools.

When the data was analyzed for the assumption that emotional intelligence is affected by the socio economic class of the children, it showed that significant differences between the total scores of High, Middle and Low class presenting high mean scores on the total scale scores of EISC for High class as compared to the Middle and Low class. The mean scores on the sub scales of Flexibility, Happiness and Social Relations were high for the Low class as compared to the Middle and High class. While, the mean scores of High class are high on the sub scales of Self Regard, Stress Tolerance and Empathy as compared to the middle and low class. However, no significant differences were found among the three groups on the subscales of Emotional Self Awareness, Problem Solving, Impulse Control and Assertiveness. Overall, it was observed the two variables have a relationship, and may be studied further for the path of effect. Emotional intelligence in addition to other non-cognitive and cognitive factors can be explored for its effect on the academic performance of children. Similarly, Emotional intelligence has been observed to be effected by different variables as gender, age, school type and socioeconomic class, so, further variables may be added for its effect. Moreover, different facets of each demographic variable can be observed in depth for its degree of change.

Chapter IV

General Discussion

The hot debate about the practical application of Emotional intelligence in the educational field and other applied psychological settings such as family relations, health and work has given emotional intelligence critical importance in the psychology of modern time. Many strong supporters consider emotional intelligence to be a solution for obvious problems and complications faced in the settings of learning such as schools and higher educational institutions. Moreover, claims regarding the practical utility of Emotional intelligence has surged excitement regarding the potential of applications of the construct of emotional intelligence in the field of education. Thus, emotional intelligence has been considered by Goleman (1995) as an important variable which can predict the educational outcomes. It has proved itself to be a powerful predictor as compared to the personality measures or existing ability measures of educational outcomes.

The present study was intended at the development of an indigenous self- report measure of the trait EI. A well - designed and multidimensional model of emotional intelligence known as the Bar-On model of social and emotional intelligence was followed as it is a based on a mixed- model approach embracing almost all the facets of emotional intelligence construct (Bar- on, 2004). The existing self-report scales of emotional intelligence are varied in nature that is applied worldwide to assess emotional intelligence, assuming it to be a trait not ability. Of all the afore-mentioned scales of emotional intelligence, not even a single effective and valid scale designed for children in Pakistani cultural context exists. An effort was initiated for the development of scale of emotional intelligence for children in the country's cultural context.

The principal component analysis application to 107 items proved instrumental in figuring out the factor structure of the construct of emotional intelligence, as it exists in the cultural

context of Pakistan. Those items, which showed a theoretical alignment with one another, had Eigen values greater than 1 and showed factor loadings of .4 or above were retained in a factor. Consequently, ten factors consisting of 64 items that jointly explained 51 % of the total variance were retained. Ten extracted factors by varimax orthogonal rotation exhibited explicitly a comparative similarity with the facets of the Bar- On Model of social emotional intelligence (1997, 2000): later on, engendered the Bar-On emotional quotient Inventory (EQ-i, 1997).

Assessment of Reliability indicated the scale to be highly internally consistent yielding Cronbach's alpha $\alpha = .88$ and split half reliability = .83 for the total scale. All the ten factors had high Cronbach's alpha values, ranging from $\alpha = .69$ (assertiveness) to $\alpha = .94$ (flexibility) while split half reliability ranged from .70 (assertiveness) to .92 (empathy and flexibiiity).

All the features of the scale of EI came up to the expectations in terms of all its inter correlations. High correlations (.62) existed for flexibility and total EI while low correlations (.29) existed between happiness and total EI.

Factor analysis has provided evidence at hand regarding the multi-faceted aspect of the trait emotional intelligence along with highlighting the correlation among subscales. In the sample of 694, the statistical analysis approved ten well- defined and theoretically rational subscales. All the ten subscales have correlated at $p < .05$ with the total EI. The values ranged from $r = .62$, to $r = .29$) showing its correlation with the total EI besides showing the distinctive characteristics of each scale. Overall, the theoretical model of social emotional intelligence presented by Bar-On (1997, 2000) has been supported by the study.

The high value of correlation between flexibility and total EI exhibit that a person having high degree of EI is able to deal with the challenges well and has the power of adjustment to his immediate environment. Such an individual can cope with the daily life stressors and adjust to new condition in a better way.

The study at hand provides specific knowledge about the subscales' correlation and total EI. It also presents proof for the robustness of the results obtained by factor analysis about the multifaceted dimensions of trait EI. A vividly considerable 10 subscales were recommended by the factorial structure from a sample of 694 children. The subscales have correlation at $p <$ .05 with the total EI (has a range from r = .29, happiness to r = .62, assertiveness). Results show that each of the dimensions explains specified variance indicating that these scales are different to a specific degree from each other. Generally speaking, the study is in agreement with the hypothetical model of social emotional intelligence presented by Reuven Bar-On (1997, 2000).

The first hypothesis was regarding the association of emotional intelligence of Children with their academic achievement. This study explored a significant relationship between the variables. These results are supported by research studies as well. Studies regarding child and adolescent samples have shown that academicperformance is positively affected by traitEI(Perera&DiGiacomo, 2013). Some other studies have shown a direct relationship between trait emotional intelligence and academic achievement ofchildren who are in primary school age and adolescent samples as well (Parker et al., 2005; Downey et al., 2008; Mavroveli et al., 2008; Di Fabio & Palazzeschi, 2009). In all these studies conducted at different time points have indicated that trait emotional intelligence is significantly correlated with the academic achievement in different child and adolescent samples using an objective grade point average (GPA) criterion or marks in a specific subject.

Another study showed that there was not only a positive association between emotional intelligence and student's academic performance, but also the construct of emotional intelligence has various implications for the socialization of primary school Children (Mavroveli & Sanchez, 2011). Training of emotional intelligence can help focusing on maladaptive behavior patterns by working on improving the school climate, management of

classrooms. Emotional regulation guidelines can be designed for students to get rid of students' disruptive behaviors and promoting psychological well- being of the students. There are different researches done that report gender related effects but these results however have not recommended one specific gender. However, the results are likely to be specific to a subject or grade (Mavroveli&Sanchez-Ruiz,2011; Andrei et al., 2015; Costa&Faria,2015).

In some studies, however, cognitive or intellective ability has been shown to act as a moderator in the association of trait emotional intelligence and academic performance (Mavroveli & Sanchez-Ruiz, 2011; Petrides et al., 2007). The effects of trait emotional intelligence on academic performance presumably gain great significance when the situational challenges are likely to exceed a student's intellectual capabilities (Petrides et al. 2004). It can be suggested that the low IQ students tend to rely on their non- intellective abilities as compared to their high IQ counterparts that are likely to help them adapt to the challenges posited by the course work and assessments.

Significant positive association of cognitive ability of children and their trait emotional intelligence shows direct positive association of trait emotional intelligence with their mathematics and linguistic achievement scores. It indicates that high scores of children on trait emotional intelligence benefit with medium and low intellective abilities in performance of language specifically (Agnoli et al., 2012).

In a study involving a sample of undergraduate students emotional intelligence and academic success among students had significantly positively correlation ($r = 0.880$) (Suleman et al., 2019). In another study (Andrei et al., 2015), it has been shown that trait emotional intelligence effects academic achievement(math and language) but it had no significant effects when nonverbal IQ is taken into account. However, Di Fabio and Palazzeschi (2009)

demonstrated the incremental effects of trait emotional intelligence on grade point average besides fluid intelligence as well as the Giant Three personality dimensions.

A link between Academic achievement and cognitive intelligence has been proposed by numerous research studies (Brody,2000;Gottfredson,2003;Laidra et al.,2007); in parallel lines, there are numerous research studies where the pivotal role played by non- intellective or non- cognitive factors, such as personality characteristics and social constructs have been suggested (Furnham et al., 2002; Petrides et al., 2005; Poropat, 2009).

Furthermore, group differences for gender, age, school type (government or private), socio economic status and class of the children were observed in connection with total emotional intelligence. Hypothesis was designed to explore how emotional intelligence is affected by gender. It was assumed that girls have high emotional intelligence as compared to boys on emotional intelligence scale for children. The construct of emotional intelligence is multi-faceted and is affected by many factors. Gender of an individual is one such factor. Therefore, a number of researches have been done on these lines that show how EI is affected by gender with men scoring high on certain dimensions while women show high scores on some other dimensions. Researches show that women yield high score on interpersonal skills as compared to men (Palmer et al., 2005). Research shows that men score high on intrapersonal intelligence as compared to women. Relationship building was strong in women because they utilize and regulate their emotions. Women have high emotional awareness and their interpersonal skills of intelligence are high (Palmer et al., 2003).

One possibility is that parental coaching influences the exhibition of emotions. Early age interactions of parents with their children have an impact on the developing girls' EI level. It is seen that mothers are more expressive in the display of emotions to the daughters as compared to their sons, as well as mothers show diverse feelings when interacting with daughters. It is considered that difference in sex role and socialization as the bases of gender

difference (Brody, 1985). For instance women in Pakistan, like other developing countries, are favored for focusing on their emotions and feelings. They are suggested to adjust themselves to any situation and avoid self- expression, expression of anger that could form the rational for girls scoring low on assertiveness while showing better scores on the sub scales of emotional self- awareness, social relations, stress tolerance and empathy of EI's subscales in comparison to boys.

Boys have shown significant high score on the sub scales of happiness, problem solving and assertiveness as compared to girls. These results are in congruence with the findings of other researchers (Bar-On et al., 2000). Generally in a family, male members are encouraged to endure adversities and hardships with courage and patience and not to lose their heart in times of difficulties. That is the reason for high score of boys on the sub scale of problem solving. No significant differences were found between boys and girls on flexibility, self-Regard and impulse control. The difference in empathy can be explained in the light of the family system of country. In such system, girls focus and attend to emotional information. This lifestyle encourages empathic understanding in girl right from their childhood. Researchers have shown that Girls exhibit more empathetic behavior (Sear & Mace, 2008; Decety, J. 2010; Beneson et al., 2021). Higher availability, accessibility and motivation to emotion knowledge leads to higher level of emotional self awareness in girls (Barrett et al., 2000). Similarly, researchers have argued that earlier maturity, greater self regulation, social adaptability are the major factors for better understanding and maintenance of social relations in girls (Westiling et al., 2012).

Component of happiness was high in boys than girls. The reason for this difference might be that boys in childhood usually live a care free life. They live under family umbrella where much responsibility is taken by fathers. However, its strength varies across cultures (Schimmack et al., 2002). Research has shown that high emotional intelligence leads to high

scores on Happiness (Petrides, 2003). Similarly, assertive males are labeled as worthy, powerful, confident while assertive females are labeled as dominant, aggressive and rude. Negotiation is not intrinsically masculine or feminine it is how society sees women and trains those (Mate et al., 2018). Research shows that younger men are more assertive; women become more assertive as they age (Onyeizugbo, 2003). Pakistani society encourages assertiveness in boy right from their childhood as it is believed to be a sign of strength and courage. Boys have shown high scores on problem solving shows that boys are trained to take initiative and solve problems which help them to be solution oriented. Research also support that boys have high problem solving ability (Largo, 2004).

Strong theoretical logic exists to believe that in measurement of emotional intelligence gender differences count. Literature regarding emotional intelligence (Thayer & Johnson, 2000) favors the fact that women have a tendency to classify the facial emotions of individuals properly and differentiate among these different emotions that exists. It was observed that on gender basis the emotional intelligence difference among females was much higher than males (Brackett, Warner & Boso, 2005). Researchers agreed to the notion that women are richer in exhibiting emotions in comparison to men because men find it harder to describe and express emotions in a better way (Dimberg & Lundquist, 1990). This study also shows girls to be scoring higher as compared to boys regarding EI total score, emotional self-awareness, social relations, stress tolerance and empathy. Synchronization of these results has been observed with other researches (Brody, 1985; Eagly & Johnson, 1990; Thayer & Johnson, 2000; Ciarrochi et al., 2000; Mayer & Geher, 1996; Petrides & Furnham, 2000a; Charbonneau & Nicol, 2002; Cavallo & Brienza, 2002; Brackett, Mayer, Salovey, 2004). These results arises the query of why women are showing higher scores than men in respect of emotional intelligence.

This influence may be explained from both social and biological perspectives. From social perspective, research findings are in favor of women possessing high emotional intelligence than men (Singh, 2002; Ryff et al., 2001). According to Petrides and Furnham (2000), society define and attribute some specific activities to males as they consider it to be male appropriate while ascribe some behaviors appropriate for females and consider it to be more feminine. There are certain traits considered suitable for one gender as compared to the other; for example assertiveness is commonly considered as a male characteristic whereas empathy is a suitable characteristic for females (Siegling et al., 2015). The dissimilarities between male and female characteristics are due to their socialization processes. (Duckelt & Raffali, 1989; Sandhu & Mehrotra, 1999). The process of socialization occurring continuously by teachers in schools, peers in class and play, the parents at home, and above all the media encourage women to cooperate with others, express their feelings openly, and get tuned to their interpersonal world smoothly, however, men are appreciated as more competitive, increasingly independent, and instrumental (Petrides & Furnham, 2006). As a result, women gain an understanding through their childhood experiences to give much worth to nurturance and interconnectedness in interpersonal relationships as compared to the men (Gunkel, Lusk, Wolff, & Li, 2007). When it comes to the biological perspective, researchers believed that the biochemical mechanisms in the brain of female individuals are well adapted regarding the emotions of self and others for survival as one of the important factors (Fernández-Berrocal et al. 2012). The female brains have specific centers of emotional processing while in the brain of a male individual these centers are small (Baron-Cohen, 2003). Other researchers have focused on the fact that the cerebral processing of the emotions is fairly dissimilar in the two genders (Craig, Tran, Hermens, Williams, Kemp, Morris & Gordon, 2009) leading to differences in their EI.

As far as gender is concerned, the overall EI showed consistent results by researches conducted in different parts of the world. A mean correlation of .17 was found in a research conducted in the United States where females yielded higher scores and showed high emotional skills as well as skills relating to interpersonal skills in comparison to the male members of the study (Van Rooy, Alonso, & Viswesvaran, 2005). Similar results were found in a study conducted on females medical graduates where females as compared to males showed high EI scores (Chandra, Gayatri, & Devi, 2017) similarly, Sri Lankan medical undergraduates females possessed higher mean EI scores (Ranasinghe, Wathurapatha, Mathangasinghe, &Ponnamperuma, 2017). Similarly, another research study involving secondary school students scored high on EI than the male students (Joshi & Dutta, 2014). In Iran, another study (Domakani, Mirzaei, & Zeraatpisheh, 2014) showed females achieving higher overall EI, they were found to possess fine interpersonal skills, adaptation skills, and high pragmatic knowledge in comparison to males. There were some other research studies found consistent in the same lines (Craig et al., 2009; Harrod & Scheer, 2005; Petrides & Furnham, 2000).

Gender differences have been observed vividly in trait and ability EI measures in many research studies. Differences have been found between the two genders regarding different components of EI. A study by Arteche et al. (2008) has shown females to be scoring higher on the interpersonal domain than males. Moreover, females have high score than males on the attributes of empathy, and emotion- perception (Craig et al., 2009). Decoding facial expressions, which is included in perception of emotions domain was found higher in females of the two genders (Kafetsions, 2004). It is believed that females have the skills to empathize, take social responsibility and exhibit better interpersonal relationships with people in comparison to males (Dunn, 2002).

Regarding emotional expression, women are motivated to be more expressive and open, while males are usually educated to abstain from emotional expression (Naghavi & Redzuan, 2011). Similarly, another study showed that females express their emotions and predict consensus feelings better than their males counterparts (Mayer & Geher, 1996). Emotion related information is given to daughters by parents as they talk much to their daughters about emotions so, women become educated how to label their emotions much quicker than males (Naghavi & Redzuan, 2011). It is seen that more emotion words are used by mothers with female children when stories are told and more emotion is displayed while interacting with female children which may give rise a predisposition to females regarding emotions (Bechtoldt, 2008). It is seen that males are discouraged to express emotions therefore males do not know naming their own and others' emotions. Men do not show more emotions in comparison to women (Jakupcak, Salters, Gratz, & Roemer, 2003). Researchers stated that negative emotions like anger, aggression, and frustration are express more frequently by males (Brody, Hall, & Stokes, 2016). Men tend to express intense emotions that are positively charged emotions (excitement) while women are more inclined to exhibit some other low to moderate positive emotional states as joy and sorrow (Else-Quest, Hyde, Goldsmith, & Van Hulle, 2006; Perry-Parrish & Zeman, 2011; Schultz, Izard, & Bear, 2004; Zhou, Eisenberg, Wang, & Reiser, 2004). Females are better regarding emotional perception and display of emotional intelligence and social skills, however they are more hesitant regarding making decisions, therefore doesn't value cognition (Mayer & Geher, 1996; Wong & Law, 2002). However, Afridi (2019), found no significant differences across gender regarding emotional intelligence. Similarly, no significant gender differences between university students regarding emotional intelligence were found (Iqbal, Quereshi, Ashraf, Rasool, & Asghar, 2021).

Women are apt to be attentive to emotional states in comparison to men (Fernández-Berrocal, Extremera, & Ramos, 2004), have the tendency to be emotionally active (Grewal & Salovey, 2005), as well as skillfully deal with and understand their emotions, while males regulate their impulses and withstand pressure in a better way (Sanchez-Nunez, Fernández-Berrocal, Montanes, & Lattore, 2008). Simiiarly another study showed that males can manage stress by getting better scores as compared to the females when assessed with the Bar-0n EQ-i (Nasir & Masrur, 2010). Another study conducted on Spanish Adolescent population (12- to 15-year) revealed that girls are less capable of clearly perceiving their own emotions, and not highly skilled in getting over upsetting emotional states of mind (Gomez-Baya, Malesdoza, Paino, & Matos, 2017).

Another study involving students inferred that females had an advantage in recognition and expression, and empathy and caring scales, whereas emotional control has been observed in males. On the ability model measurement, females were seen to score significantly high (Day & Carroll, 2004). Likewise, another research finding propounded that females are good at the management of emotions. Sometimes, higher scores are achieved on domains related to attention to emotions and the ability to empathize, however, emotion regulation ability of males is better (Bindu & Thomas, 2006; Goldenberg, Matheson, & Mantler, 2006).

However, some studies conducted in USA, Europe, Africa, & East Asia observed that men overvalue their emotional intelligence while women have a tendency to undervalue their EI capability (Brackett & Mayer, 2003; Brackett et al, Rivers, Shiffman, Lemer, & Salovey, 2006; Lumley, Gustavson, Partridge, & Labouvie-Vief, 2005; Petrides, Furnham, & Martin, 2004). Another self-report measure demonstrated significantly higher scores by male police officers as compared to their female counterparts (Olugbemi & Bolaji, 2016) on. In another study, it was seen in British participants that women tend to underestimate their skills of

emotion, whereas an overestimation of the EI in men has been observed (Szymanowicz & Furnham, 2013).

Further, it was hypothesized in the current research that emotional intelligence is positively correlated with age in both male and female groups. Results concluded that there were no considerable differences between the two age groups on the total scores of EISC but there were significant differences in its sub scales where children of higher age group (> 9 years) had high mean scores on the sub scales of assertiveness, impulse control and stress tolerance as compared to children of lower age group (7- 9 years) whereas, the lower age group has high scores on the sub scale of happiness. Increase in stress hormones especially in females may lead to decrease in happiness with age (Monk,C. 2000).

Research has shown that children learn to control the impulses as early as age 3 years (Jhonson &Martha, 2000). Another study indicates that self control increases with age (Tao T, Wang L, Fan C, Gao W; 2014).Similarly, researchers argue that Impulse control increases with age 10 or more steadily (Steinberg, L., Cauffman, E., Woolard, J., Graham, S., & Banich, M; 2009). Similarly, research has shown that impact of stress is high on children less than 10 years (Monk, C. 2000). Children steadily gain stress control as they age.

In a study, children (8–10 years) with high trait emotional intelligence were found to have high acceptance power for their peer group and vice versa (Andrei et al. 2015). A review on the association between trait EI and aggression has shown that less disruptive behaviors are exhibited by those children, adolescents, and adults who have high levels of trait EI (García-Sancho, Salguero, & Fernández-Berrocal, 2014).

According to (Saarni, 2008), self-insight develops as an individual moves from late childhood to early adolescent period, the age ranges from 10 to 12 years of age. Skills that develop during this age are awareness of own state of emotion, understanding of other person's emotions, emotion lexicon's use, capability of sympathy and empathy, management of

expressiveness of different emotions, as well as better regulation of emotion and adoption of effective coping strategies.

Sometimes the emotional functioning of children may be limited due to absence of an effective vocabulary to represent an individual's personal and other people emotional states (Eisenberg, Sadovsky, & Spinrad, 2005; Izard et al., 2001). In the same way, brain that is not mature fully may not regulate emotion in a top-down manner such as anger outbursts' suppression (Rothbart, Sheese, & Conradt, 2009). Skinner and Zimmer- Gembeck (2007) maintained that children at the stage of pre schooling are inclined to learn action like asking for help, but children of comparatively older age are capable of employing additional cognitive strategies that includes resolution of problems as well as self-diversion strategies. As a child grow and work in group to manage threats, the child develops coping skills during this social process. While, adolescents are able of meta cognitive coping. This is a higher degree of advanced serial behavior where an imaginary circumstance may be foreseen and handled.

Therefore, there is an intelligent way of coping with strategies appropriate on the basis of age. Zeidner, Matthews, Roberts, and MacCann (2003) presented a multilayered investment model which was proposed at the statement of varying constraints while passing through the developmental process using emotionally intelligent coping. In infancy, brain-based temperamental factors show individual differences in emotion regulation, i.e. pleasant and unpleasant emotionality. This may influence the level of communication that exists between a child and his/her caregiver at the earlier stages of life. Those Children who are older (preschool and elementary school age), language counts in their regulation of emotions. With the progression of oral capabilities, a child gets capable to make out emotions according to the rules and properly express it, like "big boys don't cry," and to communicate emotions to other people. Izard et al.'s (2001) suggested that the accurate identification of emotion paves

the way for verbal ability of younger children. Afridi, (2019) has shown no significant differences regarding EI in children of age 13-18 years.

It was hypothesized in the study that students of private schools would show high EI scores as compared to government school students in both male and female groups. Results indicated significant differences between the emotional intelligence of government and private schools students. The students of private schools showed higher levels of emotional intelligence. However the students of government schools were better on the sub scales of empathy, flexibility and social relations while on the subscale of emotional self awareness, self regard, assertiveness and impulse control, the students of private schools reported high scores. On the rest of the sub scales, there were no significant differences between the students of the government and private schools. Afridi, (2019) found no significant differences in the students of government and private students regarding emotional intelligence.High emotional intelligence scores are indicative of education system guidelines, curriculum, group activities, extracurricular activities. These guidelines help the students in the recognition, labeling and understanding of emotions (Rani.S, 2019). The private school students usually belong to families where parents are educated. They usually have satisfactory socio economic status with no financial issues. Children are not given any corporeal punishment. In these families parents allow emotional expression of the children. These circumstances help the children in developing emotional intelligence skills.

Further, it was hypothesized that students belonging to higher socio economic status would have high emotional intelligence as compared to students of middle and lower socioeconomic strata in both boys and girls groups. Results indicated that there were significant differences between the total scores of upper, middle and lower class, presenting high mean scores on the total scale scores on EIS for upper class. The mean scores on the sub scales of flexibility, happiness and social relations are high for the lower class in comparison to the middle and

upper class students while the mean scores of high class are high on the sub scales of self-regard, stress tolerance, empathy and assertiveness.Poverty influence parenting negatively, create stress in children thus negatively thus affect emotional intelligence of children (Anthony, L.G.: Anthony, B.J., Glanville,D.N., Naiman, D. Q., Waanders, C., & Shaffer, S. (2005). Children reacting negatively for a situation may also be because of social changes and changes in family environment (Appleyard, et al., 2005) when a family is impacted by poverty, they are less likely to assist their children in their problems because of their over stress, and they fail to create protective boundaries for their kids, which may influence their emotional intelligence (Anthony, et al.,2005).A recent research has shown that low socioeconomic status leads to low emotional intelligence (Chitra, A. 2020). EI and parental socio economic status are positively correlated with parental warmth and understanding (Liu, Z., Wu, G; 2022). Poverty creates stressful family environment, emotional expression is suppressed, high stress level.

As human societies have become multicultural, it is important to consider and understand cultural differences. Culture influences people's way of thinking about the world. Different social groups arise as result of differences in environments and thus affect an individual's interpretation of other people's emotions. Research shows that there are cross- cultural differences in emotion perception (e.g., Western versus Eastern) as well as intra cultural differences (i.e., higher SES versuslower SES). Research suggests that the extent to which members of society will adopt either an independent or interdependent self-concepts is determined by the existence of cultural differences found in that society (Markus &Kitayama,1991). Individuals who have independent self-concepts are more focused on fulfillment of self, personal achievement, individual liberties and rights.

Such people develop an independent self-concept and are usually popular in most of the countries in West such as Italy, Canada, Germany, France, the United Kingdom, and the

United States of America. Contrary to independent societies, self-concepts of individuals in interdependent societies are more socially focused. It is commonly observed among individuals from different Eastern European countries as well as in South American, North American, African and Asian countries. In collectivistic cultures values like group goals instead of personal goals, socially responsible behavior, and conformity to norms are considered valuable (Markus & Kitayama, 1991).

Another study (Mesquita and Markus, 2004) which was built on the beliefs independent versus interdependent showed that emotions are not seen as reflection of one's own inner self in individuals of East Asian cultures but they are viewed as intermingled with the feelings of the group they belong to instead. Recent research studies suggest that the emotional complexity in cultural differences better explain the interdependent and the independent social orientations (Grossmann, Huynh, & Ellsworth, 2015).

The degree of independence of distinct sub cultures of various social groups existing within a country is determined on the basis of socio economic status. (Kraus, Piff, Mendoza-Denton, Rheinschmidt, & Keltner, 2012).

In a country the existence of cultural differences among various social groups determine the social class differences. Social class involves an individual's daily life activities, permeating communities as well as his neighborhood, and school. This perspective of defining social class has influenced the recent theoretical framework of this construct, whereas the construct of social class may be defined as a form of culture by many researchers (Grossmann & Huynh, 2013; Kraus, Piff, & Keltner, 2011).

Research has shown that the extent of accurate perception of others' emotions is determined by an individual's socioeconomic background (Kraus,Cote,&Keltner,2010).Individuals who belong to a lower socioeconomic background (low SES), an interdependent, other-oriented

focus on emotion and behavior is usually seen in them because the behavior and thought patterns in these people are based on contextual factors. Whereas, those people who belong to a high socioeconomic background (high SES), an individualistic and self-focus on feelings and behavior trend was seen (Grossmann & Varnum, 2011; Kraus et al.,2011).

Limitations and Suggestions

Although the current research study has potential significance for educators, parents and policy makers to pave the way for focusing on the non-cognitive abilities of children, it carries a few limitations that could be addressed in future research studies. The study was aimed to develop an indigenous scale of emotional intelligence for children. The age range targeted was 7- 11 years. The age can be extended to 16 years to sample a larger population of girls and boys, including the adolescent population. Hence, an indigenous and reliable instrument will be available to school psychologists, educational professionals, and parents to measure the emotional intelligence of children and adolescents. Besides exploring the relationship of emotional intelligence and academic achievement, other important personality variables regarding the child population can be considered. For generalizing the results on the Pakistani children, a relatively larger sample representative of all the provinces shall be employed in the future. So, the research findings could be confidently implied on the child population.

Further, the assessment tool developed was based on trait EI model, as it was a multifaceted model encompassing important domains of non- cognitive intelligence. Future research could however focus on the ability models of emotional intelligence, although the ability measure require time, effort and expertise for development, application and assessment but it will be a professional endeavor in this field.

The current research was cross sectional in nature, however, longitudinal research designs are much elaborate and give in depth information about the investigating variables. Longitudinal researches are efficient in establishing the right sequence of events. It points to the changes over time and clearly depicts the causal relationships as it studies the same sample overtime but due to time constraints, cross sectional research method was employed.

Global researches are reflecting the fact the emotional intelligence can be taught. This recently introduced construct has caught the public interest because it has shown its positive effects in every sphere of life from job performance (Joseph, Jin, Newman, & O'Boyle, 2015; Joseph & Newman, 2010; O'Boyle, Humphrey, Pollack, Hawver, & Story, 2011) to physical and emotional health (Martins, Ramalho, & Morin, 2010; Schutte, Malouff, Thorsteinsson, Bhullar, & Rooke, 2007). It is considered an important skill for growing children to not only be healthy, smart, efficient, but to manage skillfully in every domain of life. Globally there is surge of different learning programs of social and emotional competencies (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011) therefore there arise a need to focus on this construct. Not only development of trait and ability EI measures is required however, training programs in schools shall be given a thought. This Study could not focus on intervention programs of emotional intelligence but gives a direction for future research.

Implications

The challenge of educating today's students is increasing and it has become necessary to look beyond mere cognitive abilities and knowledge acquisition and find other ways to reach the teenage heart and mind. One such way of reaching students is through the effective domain or what has come to be known as emotional intelligence (EI). Moreover, some of the recent changes occurring in education and assessment practices may increase the importance of non-cognitive qualities, including EI.

This study yields a good understanding of children's emotional intelligence hailing from the Pakistani cultural context; moreover, a convenient reflection to other cultures of the same age group may also be found with a ready reference in this study. For successful academic and working pursuits, and personal life development, EI is an indispensably needed factor. The emotional intelligence scale for children (age 7- 11 years) in Pakistan's cultural context will be helpful to see the average level of emotional intelligence of Pakistani children. The current study has contributed to explore a new area of research by establishing the connection of emotional intelligence to academic achievement hence the construct of emotional intelligence as it exists in children will further be redefined. Hence, it will prove as a helpful assessment tool to school psychologists, educational professionals, and parents. Further research in the area of emotional intelligence will be advanced. This study asserts that for better academic performance, students' emotional intelligence should be enhanced, as supported by MacCann (2019), who suggest that the programs integrating emotional skill development into the existing curriculum will be beneficial. Increasing skills for everyone, not just those with low emotional intelligence would benefit every individual.

Conclusion

Social and emotional competencies, skills and traits have a pivotal role both contemporaneously and across time in promoting psychological well being, as well as other vital aspects of social and school success. Looking at the extant literature emphasizing the non- cognitive skills besides traditional cognitive abilities as important factors for children's academic success, the current study took an initiative to look into detail at the construct of emotional intelligence as it exists in the country's elementary school population. There are scarce research studies on emotional intelligence related to elementary school population in Pakistan as the concepts of emotional intelligence are culture related so an indigenous self - report measure of the trait emotional intelligence was developed, so, that the construct of EI

may be fully described and understood in the light of the country's culture. The theoretical framework followed in the study was the model of social emotional intelligence of Bar-On (1997, 2000).

The Bar-On model provided the theoretical basis for the study, as this instrument assesses various aspects of the construct. According to this model, *"emotional-social intelligence is a cross section of interrelated emotional and social competencies, skills and facilitators that determine how effectively we understand and express ourselves, understand others and relate with them, and cope with daily demands"* Bar-On, R. (2005). This model is comprehensive and covers all important factors related to emotional intelligence.

According to this model, an individual to be emotionally and socially intelligent, he has the ability to effectively self- understanding and expression, is capable of understanding and relating well with others, and is better able to handle the daily life challenges. The intrapersonal ability has strong role as self- awareness, recognizing one's own strengths and weaknesses as well as non- destructive expression of emotions is the important factor of this model. Another important aspect of the model is the interpersonal factor, that relates to the ability to be awareness of other peoples' emotions, as well as establishment and maintenance of constructive relations. Consequently, to be emotionally and socially intelligent, an individual needs effective management of personal and social challenges through realistic approach to immediate environment, efficient problem solving and effective making decisions Bar-On, R. (2005).

Although there are a number of self – report measures that are used around the world that assess emotional intelligence as a personality trait rather than an ability of the individual. Among the mentioned scales of emotional intelligence in the literature, no scale is reportedly developed for children in Pakistani cultural context. This current study was an attempt to

indigenously develop a scale of emotional intelligence for children. The principal component analysis application to 107 items proved instrumental in figuring out the factor structure of the construct of emotional intelligence, as it exists in the cultural context of Pakistan. It resulted in 64 interpretable items into ten distinguishable factors that sampled the domain of emotional intelligence. The newly developed scale was validated and its reliability was assessed. Hence, an indigenous, reliable and valid instrument became available to measure the emotional intelligence of children in the country's cultural context. One of the practical implication of emotional intelligence is in the field of education besides workplace performance, health, marital adjustment and a lot more personal and social domains. So, the relationship of emotional intelligence with the academic achievement was assessed using the newly developed scale (EIS- C), which was highly significant. So, a useful assessment tool was developed to assess the emotional intelligence of children became available. It will help the teachers to assess the emotional intelligence of children (7- 11 years) and design different strategies to improve emotional intelligence of children.

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Annexure- A

School authorities consent form

Dear Principal/ In charge

My name is Uzma Shaheen. I am a doctoral scholar in International Islamic University Islamabad, pursuing my research on Emotional Intelligence of students as it effect the students' achievement.

All measures will be taken to protect the confidentiality of the participants. Your cooperation and support is extremely essential for the success of this project. You will be given Parents' Consent Form and demographic data sheets for students in envelops to be kindly passed out to each student in your classroom. Students are to be reminded to get it filled by their parents and return the envelope, the next day to be collected by you.

Each student will be asked to read and mark a list of statements measuring their emotional intelligence. will take no longer than 40 minutes. Student's academic records such as class term exam marks and attendance record will be required. I will be present at the time of data collection, God willing.

Participation in this study is voluntary.

Your patience and understanding are greatly appreciated.

- I agree to support the administration of this study in my school.
- I don't agree to support the administration of this study in my school.

Signature of School Incahrge Name of Incharge Date

Annexure- B

Parental Letter of Consent for student participation

To the parents of primary grade students:

My name is Uzma Shaheen. I am conducting a research study to understand whether the emotional intelligence of students has an impact on the student's academic achievement. I am requesting your child's participation by allowing school authorities to give students' academic records. You are requested to sign the parental consent form and fill in students' demographic data sheet as well. Your child's is required to fill in a self-report questionnaire to assess his level of EI. Your child's participation in this study is voluntary, but very necessary to the success of this project. Child can choose not to participate or to withdraw from the study at any time. The results of the research study may be published, but your child's name will not be used.

Fill in the following query please.

I allow access to my child's test scores, discipline and attendance record.

Yes No

Signature

Annexure- C

Demographic Datasheet of the students

1. Name of the school:

_____

2. Type of School

_____

3. Name

_____

4. Age

_____

5. Gender

_____

6. Residence

_____

7. Class

_____

8. Mother tongue

_____

9. Parents' monthly Income

_____

Signature

Annexure- D

List of statements based on Fifteen Facets to Generate items that indicate Emotional Intelligence

NOTE:

This investigation pertains to PhD research that aims to develop an indigenous scale of Emotional Intelligence for children (age 7 to 11 years).

First, Emotional Intelligence will be defined on the basis of Bar- On Model of Social and Emotional Intelligence, which will be followed in the current research study.

"Emotional Intelligence is a cross section of inter related emotional and social competencies, skills and facilitators that determine how effectively we understand and express oneself, understand others and relate with them, and cope with daily demands". (Bar- On 2005)

Following are different dimensions of Emotional Intelligence. Generate at least five statements (English or Urdu) indicating Emotional Intelligence of Children.

1.Emotional Self- Awareness

The ability to identify one's different emotions and to discriminate among different emotional states along with the understanding of its casual factors.

e.g., If an individual is happy, he is able to identify his happiness, can discriminate it from contentment and know the causes of his happy state.

1.

2.

3.

2. Assertiveness

The ability to constructively express one's feelings, beliefs and thoughts, stand for one's rights and follow one's principles confidently and straightforwardly. An individual may follow his rules and may express his feelings without being aggressive.

e.g., An individual saying "No" to unacceptable behavior like rule breaking .

1.

2.

3.

3. Self- Regard

The ability to look into one self and to properly evaluate. It is the acceptance of one's strengths and weaknesses and respecting oneself with a well-developed sense of self-identity. It is the way one carry and project oneself.

e.g., An individual with an optimal self- regard tend to feel, accept and talk about his positive attributes and accomplishments with good interpersonal skills..

1.

2.

3.

4. Independence

The degree of inner strength and self- confidence which enable an individual to plan and act without emotional dependence. They consider others' opinion but work autonomously to achieve their goals.

e.g; An individual who is self- directed to control and influence group task effectively and proves to be a cooperative team member.

1.

2.

3.

5. Self- Actualization

The ability to realize one's potential by self- motivating oneself to work persistently for the achievement of long term and enjoyable goals. It is performance at the highest level of one's capacity, mobilized by one's interest in the goal that directs him to actualize his inner potential for the attainment of goal.

1.

2.

3.

6.Interpersonal Relationships

The ability to establish and maintain meaningful social relations and to feel satisfied with social relations. It is the ability to be aware of and understand feelings so as to show and receive warmth and affection within those relations.

e.g., An individual who has the ability to foster friendly and warm atmosphere by being affectionate, outgoing and pleasant to be with.

1.

2.

3.

7. Empathy

The ability of being sensitive to others' feelings. To show concern for others while putting aside one's own interests and become a loyal and responsible group member. It is the ability of taking and delegating responsibility thus exemplifies oneself as a cooperative group member.

e.g., An individual who take care of other fellows in the group, putting ahead their interests and appreciate their feelings.

1.

2.

3.

8. Social Responsibility

The ability of an individual to identify with the social groups to which one belongs and try to become a constructive and contributing group member. Such an individual work for and with others according to agreed upon standards of the group with interpersonal sensitivity.

e.g., An individual who accepts the responsibility of the group activities in a professional manner for common good of the group and not just the self.

1.

2.

3.

9. Problem Solving

The ability of an individual to adopt a complex cognitive process, that involves flexible, spontaneous, methodical and conscientious approach in coping with challenging situations. The ability to pay attention to a problem, gather information to define and formulate the problem, generate and prioritize solutions to implement the best possible solution.

e.g., An individual who encounters problem at workplace will first identify his problem and will systematically follow the problem solving approach to manage his problem and reach a decision.

1.

2.

3.

10. Flexibility

The ability to accepting change and adjust to new situations. It is the degree of resilience in beginning new tasks and making adjustments in unpredictable situations. It is the cognitive processing of emotions in which an individual is able to accommodate the way he feels, think and act to changing scenarios for improvement.

e.g., An individual whose department is changed without prior intimation, tries to cope with the new task on hand positively and easily.

1.

2.

3.

11. Reality Testing

Without fantasizing the ability to comprehend the immediate situation in the accurate perspective. It is experiencing the situation authentically. It is the degree of perceptual clarity when trying to assess and cope with the situation. An individual filling the gap between his subjective approach to the world and the objective reality around him.

e.g., An individual's subjective feelings of being superior in the group shows problem in his reality testing.

1.

2.

3.

12. Stress Tolerance

The ability to stand against stressful life events without being carried away by it and actively participating and coping with the situation. It is the ability to choose better options, expect positively to overcome the problem and feel confident to control the situation. Such an individual remain composed in adverse situations and anticipates positively in new situations.

e.g., An individual who can cope with the demanding situation of work , influence the stressful situation positively and actively control the situation by right decision making.

1.

2.

3.

13. Impulse Control

The ability to accept one's impulses and to remain composed to control one's aggressive/ disruptive behavior in highly demanding situations.

e.g., An individual who control his hostility (at work, play) by identifying and accepting his impulses and try to get control over his emotions, leading to conflict resolution.

1.

2.

3.

14. Optimism

The ability to adopt a positive approach towards problems, try to cope with upsetting life events confidently and hope for the attainment of goals. Such an individual remain hopeful and motivate himself in face of problems and believe in his abilities to reach the desired end. It is the ability of an individual to learn from his mistakes rather than loosing hope.

e.g; A child who get low grades in a subject, try to adopt a new strategy and believe that he will do the best in the next sessions rather than getting disappointment.

1.

2.

3.

15. Happiness

The ability to feel satisfied and feel contented in one's own life, feel good about others and enjoys life in general. Happiness motivates an individual to perform well efficiently and leads to a sense of well - being.

e.g., A child who feels happy about himself work efficiently resulting in enhanced sense of well- being

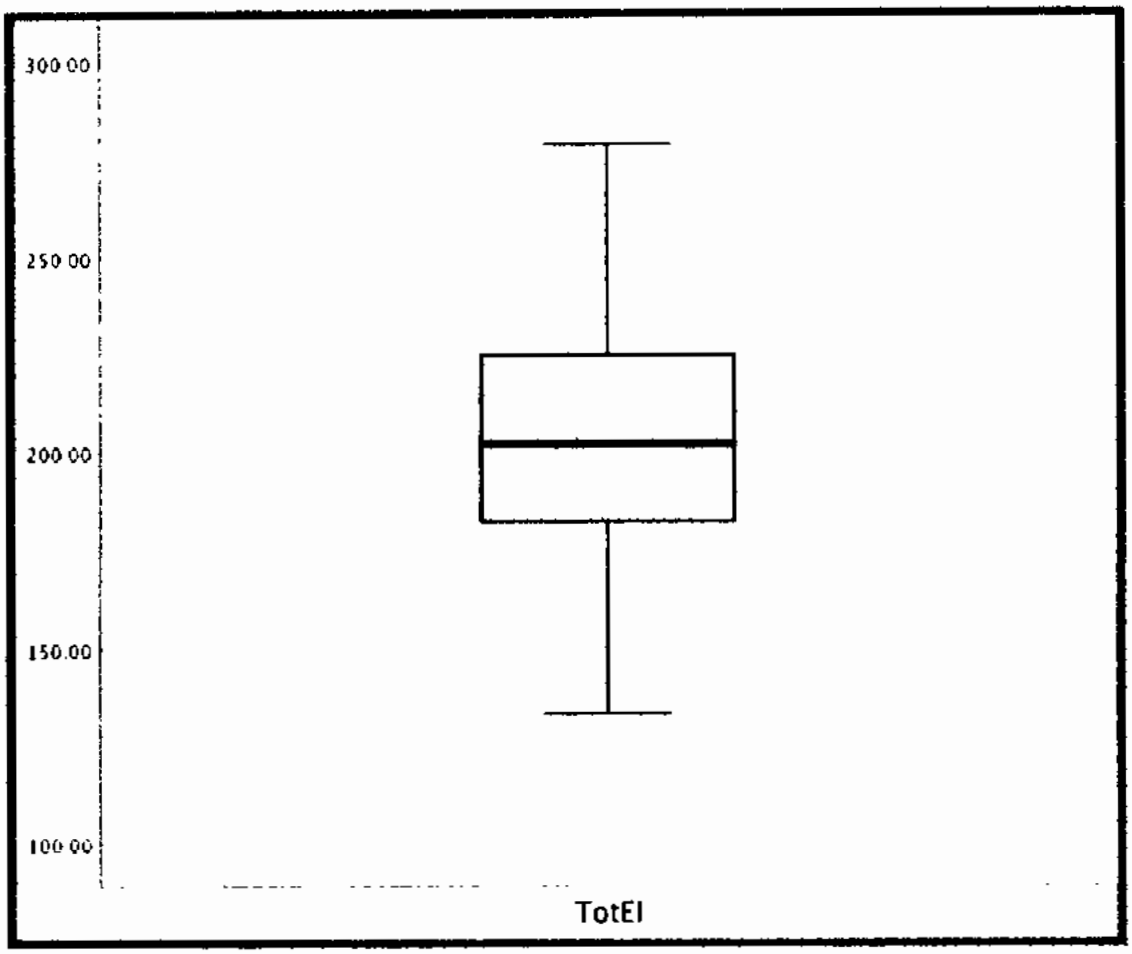
1.

2.

3.

Annexure- E

Box Plot



Annexure- F

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.912
Bartlett's Test of Sphericity	Approx. Chi-Square	45697.024
	Df	5671
	Sig.	.000

Annexure- G

Total Variance Explained

Component	Initial Eigenvalues		Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	17.535	16.388	17.535	16.388	16.388	12.141	11.347	11.347
2	12.367	11.558	12.367	11.558	27.946	8.789	8.214	19.561
3	6.264	5.854	6.264	5.854	33.8	5.081	4.748	24.309
4	4.125	3.855	4.125	3.855	37.655	4.707	4.399	28.708
5	3.308	3.092	3.308	3.092	40.747	4.098	3.83	32.538
6	2.693	2.516	2.693	2.516	43.264	4.023	3.76	36.298
7	2.344	2.19	2.344	2.19	45.454	3.632	3.394	39.692
8	2.167	2.025	2.167	2.025	47.479	3.59	3.355	43.046
9	2.035	1.901	2.035	1.901	49.381	3.336	3.118	46.165
10	1.874	1.751	1.874	1.751	51.132	2.514	2.349	48.514
11	1.712	1.610	1.712	1.6	52.732	2.342	2.189	50.703
12	1.674	1.564	1.674	1.564	54.296	2.342	2.189	52.891
13	1.569	1.466	1.569	1.466	55.763	2.274	2.125	55.016
14	1.496	1.398	1.496	1.398	57.16	1.896	1.772	56.788
15	1.403	1.311	1.403	1.311	58.471	1.801	1.683	58.471
16	1.344	1.256						
17	1.242	1.161						
18	1.177	1.110						
19	1.119	1.046						
20	1.096	1.024						
21	1.080	1.009						
22	1.051	0.983						
23	0.980	0.916						
24	0.958	0.895						
25	0.935	0.874						
26	0.899	0.84						
27	0.878	0.821						
28	0.853	0.797						
29	0.842	0.787						
30	0.803	0.750						
31	0.788	0.736						
32	0.770	0.720						
33	0.745	0.696						
34	0.737	0.689						
35	0.724	0.677						
36	0.701	0.655						

37	0.682	0.637
38	0.663	0.62
39	0.651	0.608
40	0.643	0.601
41	0.625	0.584
42	0.591	0.553
43	0.587	0.548
44	0.581	0.543
45	0.572	0.535
46	0.548	0.512
47	0.534	0.499
48	0.519	0.485
49	0.512	0.479
50	0.507	0.473
51	0.500	0.467
52	0.496	0.464
53	0.482	0.451
54	0.475	0.444
55	0.463	0.433
56	0.454	0.424
57	0.444	0.415
58	0.433	0.405
59	0.431	0.402
60	0.421	0.394
61	0.418	0.391
62	0.412	0.385
63	0.389	0.364
64	0.388	0.363
65	0.383	0.358
66	0.381	0.355
67	0.374	0.351
68	0.367	0.343
69	0.361	0.337
70	0.349	0.326
71	0.338	0.316
72	0.334	0.312
73	0.327	0.306
74	0.317	0.297
75	0.308	0.288
76	0.304	0.284
77	0.299	0.280
78	0.288	0.269
79	0.284	0.266
80	0.282	0.263

81	0.276	0.258
82	0.266	0.249
83	0.256	0.239
84	0.253	0.236
85	0.248	0.231
86	0.245	0.229
87	0.234	0.219
88	0.23	0.215
89	0.225	0.211
90	0.21	0.196
91	0.203	0.192
92	0.198	0.185
93	0.196	0.184
94	0.194	0.181
95	0.188	0.176
96	0.179	0.167
97	0.175	0.163
98	0.17	0.159
99	0.161	0.151
100	0.151	0.141
101	0.147	0.137
102	0.139	0.131
103	0.111	0.104
104	0.103	0.096
105	0.094	0.088
106	0.083	0.078
107	0.064	0.059

Extraction Method: Principal Component Analysis.

Annexure-H

سوالنامہ

ہدایات:

یہ سوالنامہ آپ کے جذبات سے متعلق ہے۔ برائے مہربانی ہر بیان کو غور سے پڑھیں اور اپنی پسند کے مطاب سامنے دیئے گئے جو بات (ہمیشہ، اکثر، کبھی کبھی،شاز و نادر , کبھی نہیں) میں سے کسی ایک پر نشان (ا) لگائیں۔ کوشش کریں کہ ہرسوال کا جواب دیں۔ آپ کا کوئی بھی جواب صحیح یا غلط نہیں ہے۔ یہ سوالنامہ صرف آپ کی رائے جاننے کیلئے ہے۔

.1	میں ہر کام سوچ سمجھ کر کرتا / کرتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاز و نادر	کبھی نہیں
.2	مجھے لگتا ہے کہ میں اپنے آپ سے خوش ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاز و نادر	کبھی نہیں
.3	میں اپنی پسند اور ناپسند بتا سکتا / سکتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاز و نادر	کبھی نہیں
.4	میں آسانی سے نئی جگہ میں Adjust/ ڈھل جاتا/جاتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاز و نادر	کبھی نہیں
.5	دوسرے لوگ میرے ساتھ خوش رہتے ہیں۔	ہمیشہ	اکثر	کبھی کبھی	شاز و نادر	کبھی نہیں
.6	میں دوسروں کے مزاج کو سمجھ سکتا / سکتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاز و نادر	کبھی نہیں
.7	کسی بھی مسئلے کو حل کرنے کیلئے میں کئی بات سوچتا / سوچتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاز و نادر	کبھی نہیں
.8	میں اپنے غصے پر قابو (Control) کرسکتا / سکتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاز و نادر	کبھی نہیں
.9	میں اپنے مشکل حالات پر قابو پا سکتا / سکتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاز و نادر	کبھی نہیں
.10	مجھے لگتا ہے کہ میرے پاس زندگی میں سب کچھ ہے۔	ہمیشہ	اکثر	کبھی کبھی	شاز و نادر	کبھی نہیں
.11	میں اپنی خوشی کو محسوس کر سکتا / سکتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاز و نادر	کبھی نہیں
.12	مجھے اپنا آپ اچھا لگتا / لگتی ہے۔	ہمیشہ	اکثر	کبھی کبھی	شاز و نادر	کبھی نہیں
.13	اگر کوئی غلط کام ہو تو میں اس کے خلاف ہو سکتا / سکتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاز و نادر	کبھی نہیں
.14	میں جلد نئے لوگوں میں گھل مل جاتا / جاتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاز و نادر	کبھی نہیں

.15	مجھے اپنے دوست پسند ہیں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.16	میرے دوست مجھے اپنے راز بتاتے ہیں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں

.17	اگر کوئی کام نہ ہو رہا ہو تو میں اُسے دوسرے طریقے سے کرنے کی کوشش کرتا / کرتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.18	میں اپنی خوشی کو قابو میں رکھ سکتا / سکتی ہوں ۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.19	جب گھر میں کوئی حادثہ پیش آئے تو میں حالات کا سامنا آسانی سےکرسکتا / سکتی۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.20	میں اپنی زندگی کو انجوائے (Enjoy) کرتا / کرتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.21	میں اپنے غصے کو محسوس کر سکتا / سکتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.22	میں دوسروں کے بارے میں اچھا سوچتا / سوچتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.23	اگر مجھے کسی سے کچھ کہنا ہو تو میں آرام سے اپنی بات اُس سے کہہ سکتا / سکتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.24	میں ضرورت کے مطابق خود کو بدل سکتا / سکتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.25	میرے لئے گھر کے افراد اہم (Important) ہیں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.26	میں دوسروں کی بات سنتا / سنتی ہوں اور اس کو سمجھنے کی کوشش کرتا/کرتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.27	میں کوئی بھی مسئلہ حل ہونے تک میں کوشش کرتا رہتا /کرتی رہتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.28	میں اپنی باری کا انتظار کر سکتا / سکتی۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
29	میں مشکل حالات میں گھبراتا /گھبراتی نہیں ۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.30	مجھے ہنسنا ، مسکرانا اچھا لگتا ہے۔	ہمیشہ	اکثر	کبھی	شاذ و	کبھی

				کبھی	نادر	نہیں
.31	میں نئی جگہوں پر جانا اچھا لگتا ہے۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.32	میں اپنے مزاج (Mood) کو سمجھ سکتا / سکتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.33	میں مشکل کام خوشی سے قبول کرتا / کرتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.34	اپنے خیالات دوسروں کو بتانا میرے لئے آسان ہوتا ہے۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.35	میں نئی چیزیں دیکھنا اچھا لگتا ہے۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.36	میرے لئے میرے ہم جماعت (Class fellows) اہم ہیں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.37	مجھے لوگوں کی مدد کرکے خوشی ہوتی ہے۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.38	میں مسئلے کا حل آسانی سے نکال لیتا / لیتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.39	میں اپنا کام آرام سے کرتا/کرتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.40	میں ذہنی دباؤ (Tension) میں کام کر سکتا/سکتی ہوں -	ہمیشہ	اکثر	کبھی کبھی	شار و نادر	کبھی نہیں
.41	مجھے زندگی بہت خوبصورت لگتی ہے۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.42	میں ہر چیز کے بارے میں اچھا سوچتا / سوچتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.43	ہر مشکل کام میں مجھے امید ہوتی ہے کہ کوئی اچھا حل نکل آئے گا۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.44	میں اپنی خامیوں کو جانتا / جانتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.45	نئے لوگوں سے ملنا مجھے اچھا لگتا ہے۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.46	ٹیم میں سب مجھے پسند کرتے ہیں۔	ہمیشہ	اکثر	کبھی	شاذ و	کبھی

				کبھی	نادر	نہیں
.47	کسی کام میں ناکامی کی صورت میں دوسرا پلان بنا لیتا/لیتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.48	اپنی پسندیدہ چیز کو حاصل کرنے کیلئے میں انتظار کر سکتا/سکتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.49	میں گھر میں سب کی بات سنتا / سنتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.50	میں آسانی سے اپنے دل کی بات بتا دیتا / دیتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.51	میں اپنی خوبیوں کو جانتا ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.52	میں اپنا ہر کام شروع کرنے سے پہلے دوسروں سے مشورہ کرتا/کرتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.53	اگر میری غلطی ہو تو میں جلدی معافی مانگ لیتا / لیتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.54	میں جلد جذباتی (Emotional) نہیں ہوتا / ہوتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.55	میں اپنی غلطی مان لیتا / لیتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.56	میرے لئے میرے اساتذہ اہم (Important) ہیں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.57	مجھے نئی چیزیں سیکھنا اچھا لگتا ہے۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.58	میں غصے کو قابو میں رکھ سکتا / سکتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.59	اگر کسی کو میری کوئی بات پسند نہ آئے تو مجھے بُرا نہیں لگتا ہے۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.60	میں اپنے جذبات پر قابو پا سکتا / سکتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.61	میرے لئے نیا کام کرنا آسان ہوتا ہے۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.62	میرا مزاج میرے کام پر اثر ڈالتا ہے۔	ہمیشہ	اکثر	کبھی	شاذ و	کبھی

			کبھی	نادر	شاذ و	نہیں
.63	میں دوسروں کے مزاج کو سمجھ سکتا / سکتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں
.64	مجھے لگتا ہے میں ہر کام کر سکتا / سکتی ہوں۔	ہمیشہ	اکثر	کبھی کبھی	شاذ و نادر	کبھی نہیں

Annexure- I

Emotional Intelligence Scale for Children (EISC)

Instructions:

This questionnaire is about your emotions. Kindly read all statements carefully and mark (✓) any of the following boxes (Always, Often, Sometimes, Never) according to your own choice. Try to give answers of every statement. None of the answers is right or wrong. This questionnaire is only to know your opinion.

1.	I always do every work carefully	Always	Often	Sometimes	Rarely	Never
2.	I feel I am happy with myself	Always	Often	Sometimes	Rarely	Never
3.	I can tell my likes and dislikes	Always	Often	Sometimes	Rarely	Never
4.	I can easily adjust to a new environment	Always	Often	Sometimes	Rarely	Never
5.	Other people stay happy with me	Always	Often	Sometimes	Rarely	Never
6.	I can understand another person's mood	Always	Often	Sometimes	Rarely	Never
7.	I think several times to solve any problem	Always	Often	Sometimes	Rarely	Never
8.	I can control my anger	Always	Often	Sometimes	Rarely	Never
9.	I can manage hard situation	Always	Often	Sometimes	Rarely	Never
10.	I feel like I have got everything in my life	Always	Often	Sometimes	Rarely	Never
11.	I can feel my happiness	Always	Often	Sometimes	Rarely	Never
12.	I really like myself	Always	Often	Sometimes	Rarely	Never
13.	If there goes anything wrong, I can speak against it	Always	Often	Sometimes	Rarely	Never
14.	I easily mix up with others	Always	Often	Sometimes	Rarely	Never
15.	I like my friends	Always	Often	Sometimes	Rarely	Never
16.	My friends tell me their secrets	Always	Often	Sometimes	Rarely	Never
17.	If something is not being done, I find new ways to do it	Always	Often	Sometimes	Rarely	Never
18.	I can hide my happiness	Always	Often	Sometimes	Rarely	Never
19.	In case of any mishap at home, I can face such situations easily	Always	Often	Sometimes	Rarely	Never
20.	I enjoy my life	Always	Often	Sometimes	Rarely	Never

21.	I can feel my anger	Always	Often	Sometimes	Rarely	Never
22.	I listen to others	Always	Often	Sometimes	Rarely	Never
23.	When I have to say something to someone, I can easily speak it	Always	Often	Sometimes	Rarely	Never
24.	I can change myself if needed	Always	Often	Sometimes	Rarely	Never
25.	My family members are important to me	Always	Often	Sometimes	Rarely	Never
26.	I listen to others and try to understand it	Always	Often	Sometimes	Rarely	Never
27.	I keep trying until solution of any issue	Always	Often	Sometimes	Rarely	Never
28.	I can wait for my turn	Always	Often	Sometimes	Rarely	Never
29.	I don't get scared in difficult times	Always	Often	Sometimes	Rarely	Never
30.	I like to stay happy	Always	Often	Sometimes	Rarely	Never
31.	I like going to new places	Always	Often	Sometimes	Rarely	Never
32.	I can understand my mood	Always	Often	Sometimes	Rarely	Never
33.	I accept difficult work happily	Always	Often	Sometimes	Rarely	Never
34.	I can easily express myself in front of people	Always	Often	Sometimes	Rarely	Never
35.	I like seeing new things	Always	Often	Sometimes	Rarely	Never
36.	My class fellows are important to me	Always	Often	Sometimes	Rarely	Never
37.	I feel happy to help others	Always	Often	Sometimes	Rarely	Never
38.	I can find solution to problem easily	Always	Often	Sometimes	Rarely	Never
39.	I do my work comfortably	Always	Often	Sometimes	Rarely	Never
40.	I can work under stress	Always	Often	Sometimes	Rarely	Never
41.	Life seems beautiful to me	Always	Often	Sometimes	Rarely	Never
42.	I think positively about everything	Always	Often	Sometimes	Rarely	Never
43.	I'm hopeful to find solution to any difficult work	Always	Often	Sometimes	Rarely	Never
44.	I know my weaknesses	Always	Often	Sometimes	Rarely	Never
45.	I like meeting new people	Always	Often	Sometimes	Rarely	Never
46.	Everyone likes me in the team	Always	Often	Sometimes	Rarely	Never

47.	In case of failure in work, I always make another plan	Always	Often	Sometimes	Rarely	Never
48.	I can wait to get what I want	Always	Often	Sometimes	Rarely	Never
49.	I listen to everyone at home	Always	Often	Sometimes	Rarely	Never
50.	I can easily speak out my heart	Always	Often	Sometimes	Rarely	Never
51.	I know my good points/ strengths	Always	Often	Sometimes	Rarely	Never
52.	I ask others before starting any work	Always	Often	Sometimes	Rarely	Never
53.	I say sorry if I'm wrong	Always	Often	Sometimes	Rarely	Never
54.	I do not get emotional easily	Always	Often	Sometimes	Rarely	Never
55.	I admit my mistakes	Always	Often	Sometimes	Rarely	Never
56.	My teachers are important to me	Always	Often	Sometimes	Rarely	Never
57.	I like to learn new things	Always	Often	Sometimes	Rarely	Never
58.	I do not get anger	Always	Often	Sometimes	Rarely	Never
59.	I don't mind if someone dose not like what I say	Always	Often	Sometimes	Rarely	Never
60.	I can control my emotions	Always	Often	Sometimes	Rarely	Never
61.	Doing new tasks are easy for me	Always	Often	Sometimes	Rarely	Never
62.	My mood doesn't affect my work	Always	Often	Sometimes	Rarely	Never
63.	I can understand other person's mood	Always	Often	Sometimes	Rarely	Never
64.	I feel as I can do everything	Always	Often	Sometimes	Rarely	Never