CHAPTER II
THEORETICAL OVERVIEW

2.1 EMOTIONAL INTELLIGENCE

2.1.1 History of Emotional Intelligence

As a scientific enterprise, the discipline of psychology started emulating other natural science disciplines by giving measurement a key role in the discipline. Because of historical circumstances, intelligence testing has occupied a central place in the practice of psychology, education and human development. It is interesting to note the paradox that the theoretical developments in the field of intelligence did not influence the practice of its measurement. Both continued in their own spheres. On the one hand, there was scholarly debate about the nature of human intelligence, and on the other, the practice of intelligence testing continued to flourish in various fields. The context of confusion and ambiguity can be inferred by one important definition of intelligence: ‘intelligence is what intelligence test measures’. Perhaps the theories deal with different things as they operate according to different metaphors.

In the wake of recent advances in conceptualizing intelligence, a number of concepts have emerged. Thus we have studies on wisdom, social intelligence, practical intelligence, successful intelligence, emotional intelligence and spiritual intelligence which have generated interest among psychologists to revive the notion of intelligence.
Plato wrote two thousand years ago that all learning has an emotional base. Since then, scientists, educators, and philosophers have worked to prove or disprove the importance of feelings. Unfortunately, for a large part of those two millennia, common thought was, ‘Emotions are in the way. They keep us from making good decisions and they keep us from focusing’. In the last three decades, a growing body of research has been proving just the opposite.

By the end of the nineteenth century, Charles Darwin had made incisive observations on the expression of emotions in animals and humans and placed emotion in the perspective of biological evolution; James (1899) had produced a scientific description of the phenomenon of emotion, thus opening the way to its experimental study; and Freud (1960) wrote the means by which emotion might play a role in psychopathology.

In the 1900’s, even though traditional definitions of intelligence emphasized cognitive aspects such as memory and problem solving, several influential researchers in the field of intelligence had begun to recognize the importance of non-cognitive aspects. For instance, E.L. Thorndike, at Columbia University, (Thorndike, 1920), used the term “social intelligence” to describe the skill of understanding and managing other people. Similarly, in 1940 David Wechsler described the influence of non-intellective factors on intelligent behaviour. In 1954, Abraham Maslow wrote how people could enhance their emotional, physical, spiritual and mental strengths. His work sparked the “human potential” movement, which would be the greatest celebration of humanism since Renaissance. In 1975, Howard
Gardner’s *The Shattered Mind*, (Gardner, 1975) began the formulation of the idea for “Multiple Intelligences”, including both interpersonal intelligence and intrapersonal intelligence. Many psychologists, such as Gardner, believe that traditional measures of intelligence, such as the IQ test, fail to fully explain cognitive ability (Smith, 2002).

The phenomena of emotions have traditionally been considered of limited value by the mainstream psychological scholarship. Instead it assigned relatively greater value to the rational and cognitive part of mind. The focus on the normal psychological science demand certitude and rationality that are missed in the discourse on emotions. Emotions are held as a stirred-up condition or perturbations in the mind. It is therefore not surprising to find that the image of emotions is endorsed in terms of phenomena that are basically irrational, abnormal, deviant, feminine, and hence undesirable. They are of genuine concern for therapy and clinical practice. It is only recently that there is revival of interest in the study of emotions. The increased interest owes to advancements in research on evolutionary psychology, comparative and biological studies, cultural and cross-cultural studies, media and communication studies, ethological and developmental studies, and studies of organizational and consumer behaviour. It is being gradually recognized that a dichotomy that posits reason against passion, and cognition and affect is misconstrued and misplaced.

The human psychological functioning is complex and challenging because of intrinsic involvement of many systems, the parts of which are irreducible in terms of any single factor such as language, cognition, neurological functions, and socially shared cultural processes. The emergence of concepts like emotional competence,
emotional labour, emotional creativity, feelings, mood and temperament, and affect indicate a conceptual move to solve the puzzle of emotions by recognizing the totality of human functioning.

The first use of the term “emotional intelligence” is attributed to Payne’s doctoral thesis (1985), A Study of Emotion: Developing Emotional Intelligence, Self-Integration relating to fear, pain and desire. However, prior to this, the term ‘emotional intelligence’ had appeared in the study of Leuner (1966). Greenspan (1989) also put forward an Emotional Intelligence model followed by Salovey & Mayer (1990) and Goleman (1995). In 1990, a seminar paper of Salovey and Mayer defined Emotional Quotient (EQ) as a scientifically testable “intelligence”. The term EQ may be defined as a relative measure of one’s emotional intelligence possessed by him at a particular period of his life. Mayer and Salovey continue to research the concept. However, the concept gained popularity through Goleman’s (1995) bestseller book titled Emotional Intelligence. In October of 1995, Nancy Gibbs wrote an article on emotional intelligence that appeared in Time Magazine, wherein she mentioned Goleman’s book and the work of Mayer and Salovey. Her article added popularity to the book and caused a domino effect of media interest in emotional intelligence.

The theoretical idea behind Emotional Intelligence (EI) is not totally new in the psychological literature. All the existing models of EI are to some extent overlapping with many other constructs, that is, social intelligence, alexithymia, inter and intrapersonal intelligences, and practical intelligence. Psychometricians might not
be satisfied with the implicit similarities and differences between EI and practical intelligence. Emotional intelligence is very similar to what Sifneos (1973) coined as alexithymia in the early seventies. One might wonder why we should talk about EI if it is so closely related to alexithymia. The answer is that EI was started as a type of mental ability (Salovey & Mayer, 1990), but alexithymia was considered as a personality construct (Taylor & Bagby, 2000). Besides, positive feelings, mixed emotions, or neural states are neglected in the construct of alexithymia, and the emphasis is on negative emotions (Salovey & Mayer, 1990).

Although affective ability was emphasized by Wechsler (1940) in general intelligence, his scales of intelligence (e.g., WAIS) did not include a separate and distinct entity of emotional reasoning. The revolutionaries like Gardner (1983), and Sternberg (1985) do not accept the notion of general (‘g’) factor. They further believe that the major tests, the Stanford-Binet and the Wechsler Scales are outdated. They believe that the traditionalists view of intelligence is too limited and ought to be modified. In 1983, Gardner published an influential book ‘Frames of Mind’. This is a manifesto refuting the concept of IQ. It proposed that there is not one, monolithic kind of intelligence that is crucial for success in life but rather there is a wide spectrum of intelligence with different varieties. Certain aspects of EI are also similar to Gardner’s (1983) interpersonal and intrapersonal intelligences, but Gardner has not yet demonstrated the existence of these types of intelligence psychometrically (Mayer, 2004). Gardner considered inter and intrapersonal intelligences as distinct and relatively independent of each other (Sternberg, 1999). Moreover, EI goes much
beyond inter and intrapersonal intelligences. Aristotle’s practical intelligence is also to a certain extent similar to EI, but Aristotle talked about practical intelligence at a time when there was no field of psychological testing (Tigner & Tigner, 2000). So, psychometricians might not be satisfied with the implicit similarities and differences between EI and practical intelligence. While practical intelligence can include several skills for dealing with daily life activities, affective reasoning is the focus in EI.

Ability model of EI could be merged with the section of emotional behaviour under content in Guilford’s (1985) model of intelligence, because the behaviour in content category was explained in terms of abilities that provide social intelligence. But, emotional reasoning was not given any focus. While several theories associated with the EI paradigm currently exist, the three that have generated the most interest in terms of research and application are the theories of Mayer & Salovey (1997), Bar-On (1998, 2000) and Goleman (1998, 2000). Moreover, all these theorists have been associated with the EI paradigm; a closer reading of their writing over time will reveal a significant divergence in the specific language they use to label their theories and constructs.

The quest for managing and enhancing effectiveness of people in organizations has driven the research on identifying major contributors to performance has been identified as one of the important behavioural constructs considered to be a major contributor to performance (Goleman, 1995; Goleman, 1998; & Hay Group, 2003). According to Goleman, IQ and EI should not be regarded as competencies with an opposite direction. They are rather separate competencies.
People with a high IQ but low EI (or the opposite) are, despite the stereotypes, relatively rare. There is a correlation between IQ and some aspects of EI. The viewpoints and ideas propagated by Goleman have brought a revolution in the field of childcare, home and school.

According to Goleman, Boyatzis & Mckee (2002), EI is now a very helpful construct in distinguishing highly effective leaders from the mediocre. Traditionally, leadership was linked to vision, risk-taking, intelligence, technical knowledge, and skill. Conventional wisdom once favoured the notion that unadulterated rationality was the key to judicious problem resolution. But of late, there has been a marked shift towards the recognition of key role played by affect in nearly all cognitive processes (Eysenck & Keane, 1995; Goldstein, 2005). Today’s effective leadership skills have been described to depend, in part, on the understanding of emotions and the abilities associated with EI (Caruso & Salovey, 2004; Cooper & Sawaf, 1997; Goleman, 1998; Ryback, 1998). In recent years, the links between EI and leadership have been explored from a number of perspectives (Goleman, Boyatzis & Mckee, 2002). As Johnson (2002) has noted, effective leaders throughout history (a) have served as emotional guides, and (b) they have created positive temper among their followers.

Emotional intelligence has also evoked a keen interest among practitioners because of its wide applicability to a host of workplace issues including job satisfaction, absenteeism, organizational commitment and organizational citizenship (Cooper & Sawaf, 1997; Megerian & Sosik, 1996; Sosik & Megerian, 1999; Wright

Psychological processes are assumed to be culturally constituted and may vary with differences in cultural meanings and practices. Studies have shown emotion to be dependent on cognitive appraisals of experience as well as culturally grounded process (Lutz & White, 1986; Miller, 1984). It is argued that emotion plays an important role in linking personality with intelligence (Salovey & Mayer, 1990). Reviewing researches in the area of EI, Thingujam (2002) cautioning on the use of translations of scales standardized in foreign culture states, “just because the items are understandable in India, do not mean that the conceptions of EI or the most culturally relevant items to measure these conceptions would be the same across cultures”(p.65). The majority of the world’s cultures hold conceptions of the person that can be more accurately described as ‘self-in-relation to other’ (Markus & Kitayama, 1991) or as human beings as occupants of social roles (Miller, 1984) and therefore less boundary oriented.
Indians develop a morality of caring which emphasizes broad and relatively non-contingent interpersonal obligations, a familial view of interpersonal relationships, and contextual sensitivity (Miller, 1984). These moral values determine the emotional responsivity which are culture specific (Mayer & Salovey, 1997). For instance, Ahimsa (non-violence), kindness, and benevolence are the emotional expressions valued by Indians. In constructing of self in view of keeping the future and past in mind certain emotional ups and downs are experienced. Emotional learning hence in Indian context needs to be viewed as life-long processes of personal investigation (looking inward) towards the discovery of true self. This process is accompanied by concepts such as: yoga, karma, jîtendriya, dharma, vrata, caring and benevolence, which provide the very basis for emotional expression and responsivity. In this culture specific ways of behaving are, therefore, basic to the notion of EI (Sibia, Srivastava & Misra, 2003). The Indian view of emotional learning may therefore be related to the construction of self through the process of self-perception and self-monitoring in consonance with the socio-cultural context, the concept of EI around these and many other related concepts.

One of the arguments against the theoretical soundness of the concept of emotional intelligence suggests that the constant changing and broadening of its definition – which has come to encompass many unrelated elements – had rendered it an unintelligible concept. Goleman’s early work has been criticized for assuming from the beginning that EI is a type of intelligence.
Locke (2005) claims that the concept of EI in itself is a misinterpretation of the intelligence construct, and he offers an alternative interpretation: it is not another form or type of intelligence, but intelligence (the ability to grasp abstractions) applied to a particular life domain: emotions. He suggests the concept should be relabelled and referred to as a skill.

Landy (2005) comments that EI is compared and contrasted with a measure of abstract intelligence but not with a personality measure, or with a personality measure but not with a measure of academic intelligence. In accordance with this suggestion, other researchers have raised concerns with the extent to which self-report EI measures correlate with established personality dimensions. Generally, self-report EI measures and personality measures have been said to converge because they both purport to measure traits, and because they are both measured in the self-report form.

There is insufficient evidence that emotional intelligence has a unique neural basis. Cognitive neuroscience research suggests that human emotions and social skills depend on a multitude of neural circuits serving many behaviours, including attachment, empathy, face and emotional recognition, emotional sensation, emotional expression, the mirror neuron system, language skills, personality components, working memory, long term memory, reasoning, decision making and others. At its worst, EI examinations can be utilized as a means of unethical discrimination against both job applicants and current workers who happen to have either introverted personalities or exhibits moderately flat effect.
A significant criticism is that emotional intelligence has no “benchmark” to set itself against. While IQ tests are designed to correlate as closely as possible with school grades, emotional intelligence seems to have no similar objective quantity it can be based on. The criticism of the works of Mayer and Salovey include a study by Roberts, Zeidner & Mathews (2001). That research warns that EQ may actually be measuring conformity. However, Mayer, Salovey, Caruso & Sitarenios (2001), provide further theoretical basis for their theories. Nevertheless, many psychological researchers do not accept emotional intelligence to be a part of “standard” intelligence like IQ. Further criticism has been offered by Brody (2004), who claimed that unlike tests of cognitive ability, the Mayer-Salovey-Caruso Emotional Intelligence Test Version 2 (MSCEIT, 2002) tests knowledge of emotions but not necessarily the ability to perform tasks that are related to the knowledge that is assessed. The main argument is that even though someone knows how he should behave in an emotionally laden situation, it doesn’t necessarily follow that he could actually carry out the reported behaviour.

Robert Sternberg occupies a unique position in intelligence research today, as both insider and as critic. Sternberg surveys the emotional intelligence area and examines its contributions to traditional intelligence research. He evaluates whether the idea of EI is “correct” or is consistent with available evidence, whether EI is novel and appropriate in accomplishing what it is supposed to, and the practical usefulness of EI in understanding important life outcomes.
Some of the researchers indeed warn against the dangers of treating emotional intelligence like a panacea. Harvard psychologist Jerome Kagan, whose child-development research Goleman uses to talk about the nature of shy and gregarious kids, warns that emotional intelligence has the same blind spots as IQ and some people ‘handle anger well, but can’t handle fear. Some people can’t take joy’. A wise approach, Kagan explains, would be to examine emotions differently, and to not encompass them in one neat package of emotional intelligence. Another criticism of emotional intelligence is that it presumes a correct response to certain situations, when in fact a variety of emotional responses are valid.

In short, emotional intelligence is based on a long history of research within a variety of areas, particularly, social psychology. This impressive body of research continues to grow and develop.

### 2.1.2 Defining Emotional Intelligence

Historically, emotions have been largely viewed as disorganizing forces that disrupt one’s ability to reason and think. Emotions are held as interfering with attempts to function rationally in the world. Recent works, however, challenge this perspective. Now it is thought that emotions provide information, direct attention and facilitate the attainment of goals. It is held that adaptive processing of emotionally relevant information is an integral part of intelligence (Salovey & Mayer, 1990). They proposed that individuals tend to differ greatly in their ability to organize their emotions in order to solve problems. Both emotions and moods have a subtle influence over the strategies involved in problem solving. They came to the
conclusion that positive mood enables a greater degree of flexibility in future planning which enables better preparation for making the most of future opportunities. Similarly, they claimed that a good mood is beneficial in creative thinking, as it increases an individual's ability for developing category organizing principles. Unfortunately, the reverse of these abilities have a tendency to hold true for individuals in negative moods. The concept of EI involves “the ability to monitor one’s own and others emotions, to discriminate among them, and to use the information to guide one’s thinking and actions” (Mayer & Salovey, 1993, p.433). Emotions guide one’s overall assessment and experience of the world and organisms that ignore their own affective feedback, are not well suited to behave adaptively (Greenberg & Safran, 1989).

Salovey and Mayer argued that emotional intelligence subsumes both inter and intrapersonal intelligence, as proposed by Gardner (1983). Their proposal indicates that emotional intelligence has five principal features: (i) being aware of one’s own emotions (ii) being able to manage one’s own emotions (iii) being sensitive to the emotions of others (iv) being able to respond to and negotiate with other people emotionally (v) being able to use one’s own emotions to motivate oneself.

There has been confusion regarding the exact meaning of the construct emotional intelligence. The definitions are so varied, and the field is growing so rapidly, that researchers are constantly amending even their own definitions of the construct. Up to the present day, there are three main models of EI: ability based EI model, mixed model of EI and trait EI model. The ability models focus on the
The interplay of emotion and intelligence as traditionally defined, while the mixed models describe a composite conception of intelligence that includes mental abilities, and other dispositions of traits (Bar-On, 1997; Goleman, 1995). The trait EI model is general and subsumes the Goleman and Bar-On models.

Salovey & Mayer (1990) suggested four-dimensional model. The first dimension consisted of emotional perception and identification involving recognition and in putting information from the system of emotion. The second and third dimensions were emotional facilitation of thought and emotional understanding that involved further processing of emotional information with a view to solve problems. The emotional facilitation of thought dimension involved use of emotions for improving cognitive processes, whereas emotional understanding incorporated cognitive processing of emotions. The fourth dimension, emotional management, consisted of emotional self-management and the management of emotions in others. Mayer & Salovey (1997) revised their own definition stressing the cognitive components of emotional intelligence and defined EI as the ability to perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth. They emphasize that emotion makes thinking more intelligent and that one thinks intelligently about emotions. Also, one who possesses these abilities is considered as a well-adjusted and emotionally skilled individual. The concept of emotional intelligence shows (Mayer & Salovey, 1997; Mayer, Caruso & Salovey, 1999) that to understand and appreciate intelligence in
totality one needs to attend to the domains of personality, emotions and motivation. They have stated that EI refers to “the ability to process emotion-laden information competently and to use it to guide cognitive activities like problem solving and to focus energy on required behaviours” (Salovey, Mayer & Caruso, 1999, p.159).

The concept of emotional intelligence is linked to personal and social competence (Goleman, 1995), academic and social success (Ghosn, 1999; Davies, Stankov & Roberts, 1998) and individual as well as team-effectiveness in organizations (Abraham, 1999; Carson & Carson, 1998; Goleman, 1998; Sosik & Megerian, 1999). Goleman (1995) agrees with Salovey’s five main domains of emotional intelligence: (i) knowing one’s emotions (self-awareness – recognizing a feeling as it happens) (ii) managing emotions (the ability of handling feelings appropriately) (iii) motivating oneself (marshalling emotions in the service of a goal) (iv) recognizing emotions in others (empathy, social awareness) and (v) handling relationships (skill in managing emotions in others). Goleman (1995) defined EI as the ability to know, manage one’s own emotions, recognize them in others and to handle relationships. He defined EI on the basis of traits that include self-control, zeal, and persistence and the ability to motivate oneself. Cooper and Sawaf (1997) defined emotional intelligence as the ability to sense, understand and effectively apply the power and acumen of emotions as a source of human energy, information, connection and influence. Bar-On (1997) defined EI: “An array of non-cognitive capabilities, competencies, and skills that influence one’s ability to succeed in coping with environmental demands and pressures” (p.14). The publication of the handbook of
emotional intelligence by Bar-On (2000) featuring several versions and feature of EI was testimony to the popularity and potential of this construct. Bar-On’s (1997) self report EQ-i generates a total EQ score and five EQ composite scales consisting of fifteen subscale scores: (1) intrapersonal EQ (self regard, emotional self-awareness, assertiveness, independence and self-actualization) (2) interpersonal EQ (social responsibility and interpersonal relationship), (3) stress management EQ (stress tolerance and impulse control), (4) adaptability EQ (reality testing, flexibility, and problem solving), and (5) general mood EQ (optimism and happiness).

Emotional intelligence is “the capacity of recognizing our own feelings and those of others, for motivating ourselves, and for managing emotions well in ourselves and in our relationships” (Goleman, 1998, p.317). Bar-On (1998) placed EI in the context of personality theory and Goleman (1998) formulated it in terms of a theory of performance. Goleman (2001) has noted that the common thread underlying all the different models of emotional intelligence is an ability to regulate emotions in oneself and others. Accordingly, in a modified version of Mayer and Salovey’s theory, he has suggested that the most parsimonious definition of EI involves four major domains, viz., self-awareness, social-awareness, self-management, and relationship management.

Goleman through his bestselling books like *Emotional Intelligence*-why it can matter more than IQ and *Working with Emotional Intelligence*, has stressed the following factors while showing the importance of emotional intelligence: (i) emotional intelligence is as powerful, and at times more powerful than IQ
(ii) unlike IQ, emotional intelligence, may be the best predictor of success in life
(iii) unlike what is claimed of IQ, we can teach and improve in children and in any
individual, some crucial emotional competencies, paving the way for increasing their
emotional intelligence and thus making their life more healthy, enjoyable and
successful in the days to come (iv) the concept of emotional intelligence is to be
applauded not because it is totally new but because it captures the essence of what our
children or all of us need to know for being productive and happy (v) IQ and even
Standard Achievement Tests (SAT) scores do not predict any person’s success in life.
Even success in academics can be predicted more by emotional and social measures
than by academic ability (vi) in working situations too, emotional intelligence helps
more than one’s intellectual potential in terms of one’s IQ or even professional skills
and competencies (vii) a person’s emotional intelligence helps him in all spheres of
life through its various constituents or components namely knowledge of his emotions
(self-awareness), managing the emotions, motivating oneself, and recognizing
emotions in others (empathy, and handling relationships).

Daniel Goleman for the first time developed (1998) a framework of
emotional competencies that determine the extent of emotional intelligence acquired
by an individual. An emotional competency, according to him, is a learned capability
based on emotional intelligence that results in outstanding performance at work.
This earlier framework consisted of five dimensions such as self-awareness,
self-regulation, motivation, empathy and social skills. These five dimensions include
twenty-five competencies. This was further refined by Richard Boyatzis, Goleman
and Rhee in the year 2000. They have suggested that EI is a convenient phrase with which it is easier to focus attention on human talent. Even though it is a simple phrase, it incorporates the complexity of a person’s capability.

Emotional competencies cluster into groups, based on a common underlying emotional intelligence capacity. The underlying emotional intelligence capacities are vital if people are to successfully learn the competencies necessary to succeed in the workplace. The emotional intelligence capacities are independent (each makes a unique contribution to job performance), interdependent (each draws to some extent on certain others, with strong interactions), hierarchical (the emotional intelligence capacities build upon one another), necessary, but not sufficient (having an emotional intelligence does not guarantee that the competencies will be demonstrated) and generic (different jobs make differing competence demands).

The table below lists Goleman’s (1998) five dimensions of emotional intelligence and the twenty-five emotional competencies.
### TABLE 2.1

**THE EMOTIONAL COMPETENCE FRAMEWORK**

<table>
<thead>
<tr>
<th><strong>Personal Competence</strong></th>
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<tr>
<td><em>These competencies determine how we manage ourselves</em></td>
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<tr>
<th><strong>Self-Awareness</strong></th>
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<tr>
<td><em>Knowing one’s internal states, preferences, resources, and intuitions</em></td>
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<tr>
<td>- <strong>Emotional awareness</strong>: Recognizing one’s emotions and their effects.</td>
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<tr>
<td>- <strong>Accurate self-assessment</strong>: Knowing one’s strength and limits</td>
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<td>- <strong>Self-confidence</strong>: A strong sense of one’s self-worth and capabilities</td>
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<th><strong>Self-Regulation</strong></th>
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<tr>
<td><em>Managing one’s internal states, impulses, and resources</em></td>
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<td>- <strong>Self-control</strong>: Keeping disruptive emotions and impulses in check</td>
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<td>- <strong>Trustworthiness</strong>: Maintaining standards of honesty and integrity.</td>
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<td>- <strong>Conscientiousness</strong>: Taking responsibility for personal performance</td>
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<tr>
<td>- <strong>Adaptability</strong>: Flexibility in handling change</td>
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<tr>
<td>- <strong>Innovation</strong>: Being comfortable with novel ideas, approaches, and new information.</td>
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Motivation

*Emotional tendencies that guide or facilitate reaching goals*

- **Achievement drive**: Striving to improve or meet a standard of excellence
- **Commitment**: Aligning with the goals of the group or organization
- **Initiative**: Readiness to act on opportunities.
- **Optimism**: Persistence in pursuing goals despite obstacles and setbacks

Social Competence

*These competencies determine how we handle relationships*

Empathy

*Awareness of others’ feelings, needs, and concerns*

- **Understanding others**: Sensing others’ feelings and perspectives, and taking an active interest in their concerns.
- **Developing others**: Sensing others’ development needs and bolstering their abilities.
- **Service orientation**: Anticipating, recognizing, and meeting customers’ needs
- **Leveraging diversity**: Cultivating opportunities through different kinds of people.
- **Political awareness**: Reading a group’s emotional currents and power relationships.
Social Skills

Adeptness at inducing desirable responses in others

- **Influence**: Wielding effective tactics for persuasion.
- **Communication**: Listening openly and sending convincing messages
- **Conflict management**: Negotiating and resolving disagreements.
- **Leadership**: Inspiring and guiding individuals and groups.
- **Change catalyst**: Initiating or managing change
- **Building bonds**: Nurturing instrumental relationships
- **Collaboration and cooperation**: Working with others towards shared goals
- **Team Capabilities**: Creating group synergy in pursuing collective goals

Goleman views emotional intelligence as a set of competencies that can be measured by his Emotional Competency Inventory (ECI). The ECI is a 360 degree instrument. The instrument is designed for use only as a development tool, not for hiring or compensation decisions. The ECI model has changes from the original model published in Goleman’s book *Working with Emotional Intelligence*.

More recently, Goleman favours only four domains of emotional intelligence (with nineteen categories, as described in his 2002 – book “Primal Leadership”) (two extra categories added by the Hay Group):

2. Self-management (Emotional self-control, Transparency (Trustworthiness), Adaptability, Achievement orientation, Initiative, Optimism, Conscientiousness).

3. Social awareness (Empathy, Organizational awareness and Service orientation).

4. Relationship management (Inspirational leadership, Influence, Developing others, Change catalyst, Conflict management, Building bonds, Teamwork and collaboration and Communication).

In yet another popular formulation, Bar-On (2005) defines emotional-social intelligence as 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. Further, Bar-On points out that these competencies and skills are teachable and learnable.

Petrides & Furnham (2000 a, 2001, and 2003) proposed a conceptual distinction between the ability based model and a trait-based model of EI. Trait EI (or ‘trait emotional self-efficacy’) refers to a constellation of behavioural dispositions and self-perceptions concerning one’s ability to recognize, process, and utilize emotion-laden information. This definition of EI encompasses behavioural dispositions and self perceived abilities and is measured by self report, as opposed to the ability based model which refers to actual abilities as they express themselves in performance based measures. Trait EI should be investigated within a personality framework.
The trait EI model is general and subsumes the Goleman and Bar-On models discussed above. Petrides and Furnham are major critics of the ability-based model and the MSCEIT arguing that they are based on “psychometrically meaningless” scoring procedures. The conceptualization of EI as a personality trait leads to a construct that lies outside the taxonomy of human cognitive ability. This is an important distinction in as much as it bears directly on the operationalization of the construct and the theories and hypotheses that are formulated about it. The trait EI model is among the salient in the scientific literature.

2.1.3 Measuring Emotional Intelligence

As EI is basically a comprehensive concept encompassing many types of skills, the issue of quantifying a person’s EQ is still debatable and surrounded with controversy, as there is no universally accepted benchmark. In fact, the methods employed for such purposes are relatively new and their effectiveness in predicting one’s EQ has not been adequately analyzed. The novelty of the concept has also not provided enough space for conducting longitudinal studies to assess the predictive power of EI relative to IQ in distinguishing workplace performance, over the course of a career. Nevertheless, the contemporary methods do predict one’s emotional acumen in a fairly accurate manner. There is now an array of validated instruments for assessing aspects of EI model (Bar-On, 2000; Mayer, Salovey & Caruso, 2000; & Boyatzis, Goleman & Rhee, 2000).

To measure EI, Mayer et al. developed two assessment questionnaires. The first is the Multifactor Emotional Intelligence Scale (MEIS). The MEIS consists
of twelve tasks divided into four classes or ‘branches’ of abilities including: (a) perceiving and identifying emotions (the ability to recognize how oneself and the people around are feeling), (b) facilitation of thought (the ability to generate emotion, and then reason with this emotion), (c) understanding emotions (the ability to understand complex emotions and emotional “chains”, how emotions transition from one stage to another), and (d) managing emotions (the ability which allows one to manage emotions in self and in others). The newer version, released in 2000 is called the Mayer-Salovey-Caruso Emotional Intelligence Test. The MSCEIT consists of one hundred and forty-one items that yield a total EI score, two Area scores, and four Branches scores. There is another version of MSCEIT available for the adolescents.

Another measure, the Emotional Competence Inventory (ECI) encompasses twenty competencies organized into four clusters: self-awareness, social awareness, self-management, and social skills (Boyatzis, Goleman & Rhee, 2000). Research studies have suggested that ECI has high levels of internal consistency (Boyatzis & Burckle, 1999; Church, 1997; Hazucha, Hezlett & Schneider, 1993; London & Beatty, 1993; Velsor, Taylor & Leslie, 1993; Atwater & Yammarino, 1992). Practitioners and organizational consultants, based on their experiences with clients, firmly believe that multi-rater or 360 degree feedback systems enhance self-knowledge and consequently improve managerial behaviour (Hazucha, Hezlett & Schneider, 1993; London & Beatty, 1993). Scholarly research confirmed these contentions and found that higher levels of congruence between managerial “self” and “other” behavioural aspects is associated with managerial effectiveness and performance (Church, 1997; Atwater &
Yammarino, 1992; Velsor, Taylor & Leslie, 1993). It is also widely believed that this self-other discrepancy is greater for higher-level managers; although empirical studies have failed to validate this observation (Church, 1997).

Bar-On (1997) introduced Bar-On Emotional Quotient Inventory on the basis of mixed model. It includes the following abilities (a) to be aware of, to understand, and to express oneself; (b) to understand, and to relate to others; (c) to deal with strong emotions and control one’s impulses; and (d) to effectively adapt to change and to solve problems of a personal or a social nature. The five main domains in this measure are intrapersonal skills, interpersonal skills, adaptability, stress management, and general mood. Used with over 60,000 people across thirty countries, the EQ-i is a paper and pencil test that has one hundred and thirty three brief items and five-point Likert Response Set. The test has been used to predict successful job performers across many occupational areas. More specifically the US Air Force, which used the EQ-i to select recruiters, found that the most successful recruiters scored significantly higher in the EI competencies of assertiveness, empathy, happiness, and emotional self-awareness than less proficient personnel. It was also found that using EI to select recruiters significantly increased the identification of those who were successful at this task (Cherniss, 2003). Additionally, there has been considerable research about the instrument’s reliability and its convergent and discriminant validity (Gowing & Boyatzis, 2006; Salovey, Mayer & Caruso, 1999). A recent study (Dawda & Hart, 2000) reported that the average correlation between measure of the big five personality factors (i.e., Neuroticism, Extroversion, Openness, Agreeableness, and
Conscientiousness) and general EI derived from the Bar-On Emotional Quotient Inventory averaged 0.5. In a latest work, Bar-On concluded that this psychometric EI measure possessed sound construct validity (Bar-On, 2005).

Another measure that has been promoted commercially is the EQ map (Orioli, Jones & Trocki, 1999). It quantifies facts such as current environment, awareness, competencies, values/beliefs and life outcomes that make up a person’s EI as well as performance, creativity, and success outcomes. It is made up of twenty scales measuring EI and the effect it has on one’s life, both personally and professionally. The factors in the EQ map are related to one’s ability to remain healthy when under pressure, the development of trusting relationships, and the creative pursuit of opportunities for future advancements.

Although the presented measurements are approximations of EI, predictions based on test scores may well be helpful to those committed to exploring the relation of their affective life with their personal and professional development. Self-reflective exploration for this type with the assistance of objective measures may be particularly important for higher-level employees who may lack frank feedback from fellow workers due to their elevated positions of authority (Sala, 2003). An inaccurate understanding of one’s strengths and weaknesses, particularly on the part of high level executives, may lead these leaders to mislead advancement opportunities due to self-serving defensiveness and misapprehension.
2.2 LOCUS OF CONTROL

In psychology, locus of control is considered an important aspect of personality. The concept was developed by Julian Rotter in the 1960’s. The full name he gave the construct was ‘Locus of control of reinforcement’. Locus of control is an expectancy variable that deals with the perception of control. The largest body of empirical data about perceived control, however, derives from Rotter’s Social Learning Theory. Research with the locus of control construct began formally in the early 1960s and came into prominence with the publication of a monograph by Rotter (1966). In this publication, Rotter presented the scale he had developed to assess the individual’s generalized expectancies for internal versus external control of reinforcement (I-E Scale). This instrument was constructed within the context of Social Learning Theory.

Some people believe that they are masters of their own fate. Other people see themselves as pawns of fate, believing that whatever happens to them in their life is due to luck or chance. The first type, those who believe that they control their destinies, have been labelled internals, whereas the latter, who see their life as being controlled by outside forces, have been called externals. Internals consequently feel that they have more influence over their outcomes than people with an external locus of control.

Locus of control beliefs are not homogeneous with respect to culture. There is a common stereotype of the Indian society as encouraging beliefs in predeterminism and attitude of resignation and passive acceptance of what is seen to be preordained.
There is also the further external stereotype based on philosophical system (Chattopadhyaya, 1976) which depicts man’s place in the scheme of the universe as infinitely small and insignificant. In contrast to this, the Western subjects, are presumably brought up under the influence of control ideology based on reward system regulated by individual effort (Faroqui, 1984). Then, Indians seem to be led by religious beliefs throughout their life.

Self-efficacy, a key element in Banduara’s (1977b, 1978b) Social Learning Theory refers to one’s belief in one’s capability to perform a specific task. Self-efficacy arises from the gradual acquisition of complex cognitive, social, linguistic, and/or physical skills through experience (Bandura, 1982). Individuals appear to weigh, integrate and evaluate information about their capabilities; they then regulate their choices and efforts accordingly (Bandura, Adams, Hardy & Howells, 1980).

Self-efficacy has been compared to internal locus of control. Rotter (1966) defined internal locus of control as a perception that rewards are contingent on individual behaviour, while external locus of control is the notion that rewards are controlled by outside factors, such as chance. However, two important distinctions can be made between self-efficacy and internal locus of control. First, internal versus external locus of control (I-E) is a generalized construct covering a variety of situations, whereas self-efficacy is task specific, examining the individual’s conviction that he or she can perform a specific task at a specific level of expertise. Bandura (1977a) stated that individuals might show strong internal locus of control in
general, but believe they have low skill levels in certain areas, which would lead to low efficacy perceptions on relevant tasks.

A second difference is that locus of control as measured by Rotter’s I-E scale includes outcome expectancies in addition to behaviour expectancies. In spite of these differences, there is evidence of a relationship between the two constructs as currently measured. Chambliss and Murray (1979) observed an interaction effect in their research on smoking reduction: internal locus of control combined with high self-efficacy led to the greatest reduction in smoking. Research exploring this interaction would contribute to a better understanding of theoretical differences between the two constructs. Further, since self-efficacy was found to affect goal level chosen and goal commitment (Locke, Frederick, Lee & Bobko, 1984), a three-way interaction could exist among self-efficacy, locus of control, and goal setting. Bandura (1986) examined aspects of the self that influence self-regulation. His research examined the effects of self-efficacy beliefs, or the expectations that people hold about their abilities to accomplish certain tasks. If individuals believe they have control over future events, then they attempt to exert that control in order to achieve a positive outcome. It does not matter whether an outcome is not attainable, the perception of control determines if one will try to attain it. Therefore locus of control has a significant influence on Bandura’s self-efficacy theories, and how individuals’ expectations shape the goals they set for themselves.

In Rotter’s Social Learning Theory, locus of control is a “generalized expectancy” that pertains to the perception of causal relationships between behaviours
and reinforcing experiences. It is similar to a belief or an attitude that persons have about the effectiveness of their behaviour to achieve the desired outcomes. Persons, who become fatalistic, believing that they can do little to change the nature of their experiences, are said to hold generalized expectancies for external control. In contrast, if individuals believe that their experiences reflect their efforts, personal characteristics, and actions, they are said to have developed generalized expectancies of internal control. That is, they assume that their outcomes and experiences are at least partially shaped by their own actions. Generalized locus of control expectancies have been used to explain the different ways in which people respond to threats and challenges.

The most famous questionnaire to measure locus of control is the twenty-three item forced-choice scale of Rotter (1966), but this is not the only questionnaire—indeed, predating Rotter’s work by five years is Bialer’s (1961) twenty-three items scale for children. Also of relevance to locus of control scale are the Crandall Intellectual Ascription of Responsibility Scale (Crandall, 1965), and the Nowicki-Strickland Scale. One of the earliest psychometric scales to assess locus of control, using a Likert-type scale in contrast to the forced-choice alternative measure which can be found in Rotter’s scale, was that devised by W.H.James, for his unpublished doctoral dissertation, supervised by Rotter at Ohio State University, although this remained an unpublished scale. Many measures of locus of control have appeared since Rotter’s scale, both those, such as the Duttweiler Control Index (Duttweiler, 1984), which uses a five-point scale, and those which are related to specific areas,
such as health. These scales are reviewed by Furnham & Steele (1993), and include those related to health psychology, industrial and organizational psychology and those specifically for children, such as Stanford Pre-school Internal-External Control Index, which is used for 3 to 6 years old.

2.2.1 Rotter’s Theory

Julian Rotter (1954) attempted to integrate the traditional behaviouristic position on the role of reinforcement in learning with the cognitive conceptualizations of Kurt Lewin and other field theorists. Rotter was not the first to note that most human behaviour is learned in a social context, but he made a more conscious effort than his predecessors to develop a systematic theory of how this takes place.

Rotter distinguished between reinforcements and cognitions: reinforcements result in movement toward or away from a goal, whereas cognitions are internal states such as expectancy and reinforcement value. The term expectancy refers to a person’s estimate of the subjective probability that a specific behaviour performed in a certain situation will lead to reinforcement. Two generalized expectancies measured and investigated by Rotter and others are internal-external locus of control and interpersonal trust. Locus of control refers to the typical direction from which people perceive themselves as being controlled (internal, or from within oneself, versus external, or by other people). Interpersonal trust is concerned with the extent to which a person believes that other people tell the truth.
According to Rotter, reinforcement is important for performance, but not all reinforcements are equally valued by the individual. Even when the probabilities of occurrence of different reinforcements are equal, certain objects or actions will have greater reinforcement value than others. Both reinforcement value and expectancies are affected by the psychological relevance or meaning of the situation to the person, which must be understood in order to predict how the person will behave in the situation. In developing social learning theory, Rotter departed from instinct-based psychoanalysis and drive-based behaviourism. He believed that a psychological theory should have a psychological motivational principle. Rotter chose the empirical law of effect as his motivating factor. The law states that people are motivated to seek out positive stimulation, or reinforcement, and to avoid unpleasant stimulation. Rotter combined behaviourism and the study of personality, without relying on physiological instincts or drives as a motive force.

The main idea in Julian Rotter’s Social Learning Theory is that personality represents an interaction of the individual with his or her environment. One cannot speak of a personality internal to the individual that is independent of the environment. Neither can one focus on behaviour as being an automatic response to an objective set of environmental stimuli. Rather, to understand behaviour, one must take both the individual (i.e., his or her life history of learning and experience) and the environment (i.e., those stimuli that the person is aware of and responding to) into account. Rotter describes personality as a relatively stable set of potentials for responding to situations in a particular way. Rotter sees personality, and therefore
behaviour, as always changeable. He does not believe that there is a critical period after which personality is set. Rotter conceives of people in an optimistic way. He sees them as being drawn forward by their goals, seeking to maximize their reinforcements, rather than just avoiding punishment.

Rotter has four main components to his social learning theory model predicting behaviour. These are behaviour potential, expectancy, reinforcement value, and the psychological situation.

Behaviour potential is the likelihood of engaging in a particular behaviour in a specific situation. In any given situation, there are multiple behaviours one can engage in. For each possible behaviour, there is a behaviour potential. The individual will exhibit the behaviour that has the highest potential.

Expectancy is the subjective probability that a given behaviour will lead to a particular outcome, or reinforcer. Having ‘high’ or ‘strong’ expectancies means the individual is confident. Then the behaviour will result in the outcome. Having ‘low’ expectancies means the individual believes it is unlikely that his or her behaviour will result in reinforcement. If the outcomes are equally desirable, the behaviour that has the greatest likelihood of paying off (i.e., has the highest expectancy) will be engaged. Expectancies are formed based on past experience. The more often a behaviour has led to reinforcement in the past, the stronger the person’s expectancy that the behaviour will achieve that outcome then. Expectancy is a subjective probability, because one common source of pathology is irrational expectancy. There may be no
relationship whatsoever between the person’s subjective assessment of how a reinforcement will likely be and the actual, objective probability of the reinforcer occurring. People can either over/or underestimate this likelihood, and both distortions can potentially be problematic.

Reinforcement is another name for the outcomes of our behaviour. Reinforcement value refers to the desirability of these outcomes. There is a high reinforcement value to the things a person desires to happen to which he is attracted to. Similarly, there is a low reinforcement value to the things he does not like to happen and wishes to avoid. If the likelihood of achieving reinforcement is the same, he will exhibit the behaviour with the greatest reinforcement value (i.e., the one directed toward the outcome that is preferred most).

As with expectancy, reinforcement value is subjective, meaning that the same event or experience can vastly differ in desirability, depending on the individual’s life experience. Punishment from a parent would be negatively reinforcing to most children, and something to be avoided. However, children who get a little positive attention from parents can seek out parental punishment because it has a higher reinforcement value than neglect.

Behaviour Potential (BP), Expectancy (E) and Reinforcement Value (RV) can be combined into a predictive formula for behaviour:

\[ BP = f (E \& RV) \]
This formula can be read as follows: behaviour potential is a function of expectancy and reinforcement value. Or, in other words, the likelihood of a person exhibiting a particular behaviour is a function of the probability that behaviour will lead to a given outcome and the desirability of that outcome. If expectancy and reinforcement value are both high, then behaviour potential will be high. If either expectancy or reinforcement value is low, then behaviour potential will be lower.

Although the psychological situation does not figure directly into Rotter’s formula for predicting behaviour, Rotter believes it is always important to keep in mind that different people interpret the same situation differently. Again, it is people’s subjective interpretation of the environment, rather than an objective array of stimuli that is meaningful to them and that determines how they behave.

In social learning terms the construct-perceived control is referred to as a generalized expectancy of internal or external control of reinforcement. The formal terms—the generalized and expectancy of internal control refer to the perception of events, whether positive or negative, as being a consequence of one’s own actions and thereby potentially under personal control. The generalized expectancy, on the other hand, refers to the perception of positive or negative events as being unrelated to one’s own behaviour and thereby beyond personal control. The internal control of reinforcement together with the external control of reinforcement is referred to as locus of control.

For explicating the place of perceived control within Social Learning Theory, Rotter put forth another general formula:
NP = f (FM & NV)

This formula can be read as follows: the potentiality of occurrence of a set of behaviours that lead to the satisfaction of some need (need potential) is a function of both the expectancies that these behaviours will lead to these reinforcements (freedom of movement) and the strength or value of these reinforcements (need value). It is with the term freedom of movement that we approach the location of the locus of control construct in Social Learning Theory.

Rotter defines freedom of movement “The mean expectancy of obtaining positive satisfaction as a result of a set of related behaviour directed towards the accomplishment of a group of functionally related reinforcements. A person’s freedom of movement is low if he has a high expectancy of failure or punishment as a result of the behaviour with which he tries to obtain the reinforcements that contribute a particular need” (Rotter, 1954, p.194). In essence, freedom of movement is a generalized expectancy of success resulting from man’s ability to remember and reflect upon a lifetime of specific expectancy behaviour-outcome sequences. Perceived control is defined as a generalized expectancy for internal as opposed to external control of reinforcements. Like freedom of movement, it is an abstraction deriving from a series of specific expectancy behaviour-outcome cycles. However, where freedom of movement concerns the likelihood of success, the generalized expectancy of internal versus external control of reinforcement involves a causal analysis of success and failure.
In Social Learning Theory, reinforcement acts to strengthen an expectancy that a particular behaviour or event will be followed by the reinforcement in the future. Once an expectancy for such a behaviour reinforcement sequences is built up, the failure of the reinforcement to occur will reduce or extinguish the expectancy. As an infant develops and acquires more experience he differentiates events, which are causally related to preceding events and those, which are not. It follows a general hypothesis that when the reinforcement is seen as not contingent upon the subject’s own behaviour that its occurrence will not increase an expectancy as much as when it is seen as contingent upon his own behaviour. Conversely, its non-occurrence will not reduce any expectancy so much as when it is seen as contingent. It seems likely that, depending upon the individuals’ history of reinforcement, individuals would differ in the degree to which they attributed reinforcement to their own actions (Rotter, 1966).

2.3 RIGIDITY

The concept of psychological rigidity has been investigated since the early part of this century, occasionally under other labels, such as proactive inhibitions or perseverations. The latter concepts have been defined as the tendency to persist in a behaviour that was appropriate in the past but that behaviour ceases to be appropriate under new circumstances.

A considerable amount of research over the last several years has investigated the construct of rigidity. Given the broad-based interest in the construct and its usefulness for understanding human thought and behaviour, rigidity will undoubtedly continue to attract researchers from many areas of psychology globally. The construct
of rigidity has a productive and venerable history in the field of psychology. It was first investigated systematically by Kounin (1941). Kounin speculated that behavioural rigidity is a developmental phenomenon that expresses behavioural differentiation from a concrete and rigid pattern in childhood, progressing to increased flexibility as adulthood is reached, with a return to greater rigidity in advanced age. Chown (1959) examined a variety of definitions of rigidity and termed rigidity to be a rather “flexible” and multidimensional concept.

An examination of the names associated with much of the early researches on rigidity reads like an all-star roster: Raymond Cattell, Else Frenkel-Brunswik, William James, Kurt Lewin, Abraham Luchins, Milton Rokeach, Charles Spearman, and Louis Thurstone. All made substantial contributions to the area.

2.3.1 Chown’s Review

One of the most comprehensive reviews of rigidity was provided in an often cited Psychological Bulletin article by Chown (1959). Her article focused on definitions of rigidity, rigidity tests, and experimental work involving rigidity. Chown concluded with three generalizations. First, she noted that at the time when a variety of instruments were available for measuring rigidity their commonalities were unclear. Second, she advocated a return to a physical model of rigidity, in which rigidity is defined as the ratio of environmental stress to structural strain. Finally, she noted that the empirical evidence suggested a multidimensional construct, but that little research had been conducted to identify the different aspects of rigidity.
Another theme noted by Chown was the distinction between the functional and structural approaches to rigidity, a distinction articulated in earlier articles by Kounin (1948) and Werner (1946). The structural approach viewed rigidity in terms of the amount of differentiation between ‘mental regions’. A person with highly defined and distinct mental regions was rigid, while a person with less clearly defined mental regions (i.e., more overlap between regions) was not rigid. A functional view of rigidity, in contrast, viewed it not as a tool for organizing information, but as a way of using information to solve problems.

2.3.2 Defining Rigidity

The concept of rigidity is quite ambiguous because various authors have made statements contradicting to one another as the concept of rigidity has been defined structurally by some, and functionally by others. Unwarranted generalizations have sometimes been derived from the assumption that rigidity is uniform rather than a multiform trait. Thus, the nature of rigidity is very complex.

In her 1959 review, Chown noted that the construct of rigidity had proved difficult to define. Indeed, the term had been used to describe mental sets, extreme attitudes, ethnocentrism, lack of flexibility, perseveration, authoritarianism and the inability to change habits. In her review, Chown failed to provide a coherent definition of rigidity, in part because there was no consensus among researchers.

Early approaches to the study of rigidity treated it as a unidimensional continuum ranging from rigid at one end to flexible at the other. The notion of rigidity
as a unidimensional construct dates back to the late 1800s and was later articulated by Spearman (1927), who described it as ‘mental inertia’ (Lankes, 1915; Pinard, 1932). Spearman is widely known for introducing the ‘g’ factor but it is not widely known that he also proposed a ‘p’ factor (perseveration factor). According to Spearman, ‘g’ consisted of the amount of mental energy available and ‘p’ was the inertia of this energy. Prior to 1960, definitions for rigidity abounded. Examples include Goldstein’s (1943) ‘adherence to a present performance in an inadequate way’, Werner’s (1946) ‘lack of variability in response’, Rokeach’s (1948) ‘inability to change one’s set when the objective conditions demand it’, and Buss’s (1952) ‘resistance to shifting from old to new discriminations’. In their comprehensive survey of the literature, Luchins & Luchins (1959) listed thirty-four factors identified in various studies, many of which were conceptually similar. And they ruefully noted that “one investigator seldom relates the factors he promulgates to those in other studies” (p.94). Clearly at the time of Chown’s review there was no consensus as to how to define rigidity.

A useful development since 1959 has been Rokeach’s ‘The Open and Closed Mind’ (1960). Summarizing the wide range of approaches to the construct, Rokeach defined rigidity as a resistance to change in beliefs, attitudes, or personal habits. The usefulness of this definition is its multidimensional nature. Rigidity is not simply the perseveration of behaviour on a behavioural task, but it is the one that can be divided into cognitive, attitudinal, and behavioural components. Rokeach used the term ‘dogmatism’ to refer to resistance to change in a person’s belief system. Rigidity refers to single belief (or habit), whereas dogmatism refers to a system of beliefs.
Review of the psychological literature suggests that a comprehensive definition of rigidity must contain several key elements. First, rigidity involves the formation of a mental or behavioural set (Chown, 1959; Rokeach, 1948; Sarmany-Schuller, 1994; Stewin, 1983; Vollhardt, 1990). By set, we mean a learned mental or behavioural pattern that forms through repeated experience in a given situation (Luchins, 1942; Luchins & Luchins, 1959, 1994). Mental sets are expectations about future events (including attitudes, beliefs, expectancies and schemas) whereas behavioural sets are patterns of observable responses. Second, rigidity involves the perseverations of these sets. By perseveration we mean the continuation of the set in the face of pressure to change (Goldberg, 1986; Goldberg & Tucker, 1979; Luchins & Luchins, 1994; Sandson & Albert, 1984). Pressure to change can come from a variety of sources, including (a) the realization that the set is no longer effective, efficient, or appropriate for the current situation or (b) pressure from an external agent indicating that change is desirable. Rigidity is defined as the tendency to develop and perseverate in the use of mental or behavioural sets. Thus, there are two steps in the rigidity process. Set formation and set perseveration (Guetzkow, 1951; Taylor & Mc Nemar, 1955). Presumably these two steps are positively correlated such that a person who quickly forms a set is likely to perseverate in its use (Luchins & Luchins, 1982). One important distinction is between perseveration and habit. A habit is a typical pattern of behaviour - that is, a habit is a behavioural set. Habits are behavioural sets that occur largely without reflection.
2.3.3 Measuring Rigidity

Although the review of literature suggests the emergence of some agreement on the definition of rigidity, it is not surprising to have given the multidimensional nature of the construct that no universally acknowledged and accepted ways exist to measure it. Further, there has been little research aimed at establishing the relationship among the existing techniques (Joshi, 1974). Many researchers, dissatisfied with the available instruments, create idiosyncratic measures of rigidity, reporting only minimal descriptions of the materials or procedures. Indeed, Chown’s review identified forty-seven measures of rigidity, and since that time, many additional measures have been developed. More recently, some researchers have moved away from the term rigidity and instead have adopted labels such as personal need for structure, need for closure, openness, or flexibility.

By far the most widely used procedure for measuring rigidity is to ask respondent to rate statements on a Likert type scale. These scales are easily administered to many respondents simultaneously and have the advantage of providing estimates for internal reliability.

The Breskin Rigidity Test is based on the Gestalt Laws of Pragnanz and measures individual differences in the tendency to form a perceptual set (Breskin, 1968, 1969; Breskin, Gorman & Hochman, 1970; Breskin & Rich, 1971).

The flexibility sub scale of the California Personality Inventory – flexibility (CPI; Gough & Bradley, 1996) was developed to measure rigidity–flexibility of
personality that was unassociated with political ideology. The first version of the scale, known as the Gough Rigidity Scale, was incorporated into the CPI in 1956.

Budner (1962) defined intolerance of ambiguity as the tendency to perceive ambiguous situation as sources of threat and tolerance of ambiguity as the tendency to perceive ambiguous situations as desirable. The research literatures on rigidity and intolerance of ambiguity are so closely related that, quite often, the two constructs are treated as synonymous. The sixteen items Intolerance Ambiguity Scale measures individual differences in desires for certainty (Durrheim, 1995).

The forty-two item Need for Closure Scale (NFCS; Kruglanski, Webster & Klem, 1993) measures individual differences in preferences for order and structure and the abhorrence of disorder and chaos. The scale measures five correlated subsets labelled preference for structure, discomfort with ambiguity, decisiveness, predictability and closed mindedness.

Openness to experience is one of the personality dimensions included in the Five-Factor Model of Personality (Mc Crae, 1996; Mc Crae & Costa, 1996). Openness is a broad and general dimension that includes preference for novelty, cognitive complexity, and flexibility. In contrast, closeness is manifested in a preference for familiarity, simplicity, and closure.

Personal Need for Structure (PNS; Neuberg & Newsom, 1993) refers to individual differences in preference for cognitive simplicity and structure. Measured
with a twelve-item scale, the PNS represents the degree to which people are motivated to structure their words in simple and unambiguous ways.

Test of Behavioural Rigidity (TBR; Schaie, 1955) in a paper that was not cited in Chown’s (1959) review, distinguished between “motor-cognitive flexibility” and “personality - perceptual flexibility”. Schaie reported the results from a factor analysis of eight instruments that showed three distinct factors. The first is psychomotor speed, which refers to the speed that a person responds to a familiar situation. The second factor identified by Schaie is the personality - perceptual component, which is defined as “ideational inertia” and measured with a series of true - false questions drawn from early self-report scales of mental flexibility (Schaie, Dutta & Willis, 1989; Schaie & Parham, 1975). This factor reflects an individual’s ability to adjust readily to new surroundings. More recently this factor has been termed as “attitudinal flexibility” (Schaie, 1996). The third factor of rigidity that Schaie identified is motor-cognitive. Motor-cognitive is a person’s ability to shift without difficulty from one activity to another, which is the behavioural aspect of rigidity. An eight-year longitudinal study of rigidity using covariance structural models found support for the identity of unique cognitive and behavioural factors (Schaie, Dutta & Willis, 1989). Using latent variable analysis at each measurement period, they found a strong correlation ($r = .81$) between the cognitive and behavioural aspects of the scale. In addition, the study found a high degree of consistency across an eight year span. Correlations between the latent factors across the eight-year period provided an
assessment of their stability and were .98 for motor-cognitive flexibility and .80 for personality-perceptual flexibility.

A growing body of literature suggests that intelligence and rigidity are negatively related. The strongest evidence supporting the intelligence-rigidity relationship comes from Schaie’s longitudinal research (Schaie, 1994; Schaie, Dutta & Willis, 1989). Using a ‘psychometric intelligence measurement battery,’ Schaie generated several measures of intellectual ability, including inductive reasoning, spatial orientation, verbal ability, numerical ability, verbal memory, and perceptual speed. He also administered the TBR. Intercorrelations among the derived factors revealed a strong relationship between behavioural flexibility (motor-cognitive) and the measure of mental abilities, with correlations among the latent factors ranging from .26 to .91. The average correlation across the combined measures of cognitive ability was .72 for motor-cognitive flexibility. Correlations reflect a positive relationship between flexibility and intelligence.

Although questionnaire measures of rigidity are by far the most commonly used assessment technique, they do not end themselves to experimental methodology. In contrast, problem-solving measures can be administered under manipulated conditions using varied sequences of problems. Problem-solving measures have focused almost exclusively on the perseveration aspect of rigidity (Schultz & Searleman, 1998). Four measures of perseveration have been frequently used: the TBR, the Einstellung Water-Jar Task, the Wisconsin Card Sorting Task (WCST), and the Stroop task. Card sorting tasks have been used primarily for clinical diagnosis and
psychiatric research; the Einstellung task has been used to study cognition; the Breskin Rigidity Test has been used to study perception; the Stroop task has been used to study interference and attention; the PNS and NFCS scales have been used to study social cognition; Intolerance of Ambiguity has been used to study political ideology and belief systems; and the CPI-flexibility and Openness to Experience scale have been used to study personality. Most research on rigidity has failed to distinguish between mental and behavioural rigidity, although the TBR has been available for almost forty years. Even studies that employ the TBR often rely on the composite score as the measures of rigidity and fail to report separate findings for each other.

The various approaches to the measurement of rigidity yielded several widely used instruments, as well as many lesser known tests. Dimensions of Rigidity Scale (DRS) developed by Chadha (1986) contains seven dimensions of rigidity viz., intellectual rigidity, emotional rigidity, dispositional rigidity, social rigidity, behavioural rigidity, perceptual rigidity and creative rigidity. They are defined as follows:

A. *Intellectual Rigidity*

(i) Not accepting anything or any idea without logical reasoning.

(ii) Believing in setting high standards for oneself and striving for the best.

(iii) To have an inclination towards thinking about and discussing intellectual and philosophical matters.

(iv) To have definite ideas about things.
B. Emotional Rigidity

(i) Lack of emotional reaction even when the situation demands it.

(ii) To have definite ideas about what type of emotional reactions should be abused in particular emotional situations.

(iii) To exert strict control over one’s emotions.

C. Dispositional Rigidity (with respect to attitudes / habits)

(i) To have very definite and rigid habits and/or ideas about habits of eating, sleeping, reading, dealing with things, etc.

(ii) To be inclined to finish works once started.

(iii) To hold extreme attitudes (positive or negative) regarding persons, things, problems, etc.

D. Social Rigidity (with respect to society)

(i) To find it very difficult to feel comfortable in a social gathering or in a new situation.

(ii) Not developing too many new acquaintances.

(iii) To have very well defined ideas about society and the social responsibilities of its people.

(iv) Giving too much importance to friendship.

E. Behavioural Rigidity (with respect to tradition / custom)

(i) To stick to traditional ways of dressing.

(ii) To have strict and definite attitude towards Indian traditions and customs.
F. **Perceptual Rigidity**

(i) Not to accept or believe anything without seeing a proof supporting it.

(ii) Generally misperceive something for some other thing.

(iii) Not able to perceive abstract relationships among things and a tendency to stick to obvious relationship.

(iv) To perceive one’s own knowledge about things to be always correct.

G. **Creative Rigidity**

(i) To be able to think of a few diverse ideas at a time (lack of fluency).

(ii) Not able to think about a thing or problem from many different angles.

(iii) To show stereotype in ideas.

In the years since Chown’s review, little progress has been made in investigating the relationships among the growing number of rigidity tests (Guilford, 1967; Kreitler, Zigler & Kreitler, 1990; Muhar, 1974). The instruments for measuring rigidity appear to have been developed in non-overlapping stages. Little research has attempted to span the hundred years of the literature to identify commonalities among the measures.
References


