Impact of Age on Emotional Intelligence and Its Components

Deeksha Sharma
Senior Research Fellow Indian Institute of Technology (IIT) Roorkee, Roorkee, Uttarakhand, India

Abstract: The present study involves the analysis of Emotional Intelligence (EI) for different age groups ranging from 17-60 years. The age taken as continuous statistic for every respondent and clustered as Young-Adulthood (17-23 years), Middle-age (24-34 years) and Mature-age (35-60) for analysis. EI and its components: Emotional-Competency, Emotional-Sensitivity and Emotional-Maturity were measured for 186 respondents. The results indicated significant impact of age on the EI and its components. Total EI increased with age. Emotional-Competency decreased from young adulthood to middle age and then increased for mature age. Maturity was maximum for mature age, whereas competency and sensitivity were maximum for middle age.

Keywords: Emotional Intelligence (EI), Emotional Competency, Emotional Sensitivity, Emotional Maturity, Age

I. INTRODUCTION

“T is very important to understand that emotional intelligence is not the opposite of intelligence, it is not the triumph of heart over head — it is the unique intersection of both.” — David Caruso

Emotions have a significant role in defining the activities and behaviour of an individual on personal and professional front. And Emotional intelligence (EI) defines the ability of the individual to sense, access, control and manage emotions of oneself and others. EI is the construct that “involves the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth” (Mayer & Salovey, 1997). EI was defined as an aptitude by Mayer and Salovey (1997) and as mix of skills and traits (Bar-On, 1996; Goleman, 1995; Schutte et al., 1998; Petrides, 2004).

The Emotional Intelligence is the key factor ability which can be developed (Emmerling & Goleman, 2003) and learned (Shapiro 1997; Goleman, 1998) at all ages as per most of the EI theories. EI is neither developed at early childhood age nor is hereditary. With age, one becomes more socially and emotionally intelligent (Bar-On, 2006). EI has tremendous impact and potential value not only for managers and HR professionals but also for educationalists, teachers and counsellors (Higgs and Dulewicz, 1999). This has led to questions on its role and ability to develop within learning managerial aspect (Fineman, 1997; Ho¨pf1 and Linstead, 1997).

The core capabilities which are developed at childhood stage are malleable, changeable and capable of being developed (Ho¨pf1 and Linstead, 1997). Further, the life and workplace experience has an impact in shaping it. EI has an impact on work performance (Carmeli 2003; O’Boyle et al. 2011) and on psychological and physical health (Ciarrochi et al. 2002; Tsousis and Nikolaou 2005). That’s main reason to find the relevance and measure of EI at different stages of EI.

An individual moves through different stages of life in age spans. And each stage exhibits a characteristic which comes in through learning and experience. EI in particular when taken as ability (Mayer & Salovey) also exhibit different patterns with age. It becomes imperative to understand the EI levels and its nature in different age groups. The present study aims to find the EI of different age groups involved and to find the differences among age groups for EI components. The age groups taken for the study are three- Young Adulthood (17-23 years), Middle age (24-34 years), Mature age (35-60).

1.1 Emotional Intelligence

Emotions are the reactions to stimuli (1579) and Intelligence comprises the mental abilities necessary for adaptation to, as well as shaping and selection of, any environmental context (Sternberg, 1997). EI is considered as intelligence as it has the ability to solve problems and monitor emotions in themselves and others. The term EI came into account in 1985 in their doctoral thesis, “A study of Emotion: Developing Emotional Intelligence.” by Wayne Payne. The term EI was used in publication by Keith Beasley in article in British Mensa Magazine in 1987. Also this term was used in work of Beldoch (1964), Leuner (1966). Mainly, there are three basic models of EI- Ability Model (John Mayer and Peter salovey), Mixed Model (Daniel Goleman) and Trait Model (K V Petrides). Mayer, Salovey and colleagues have defined EI as ability which emphasis on individual differences in cognition of impactful information and considered as an ability which can be learned and is not innate characteristic. Mixed models (Bar-On, 1997; Goleman, 1995) have included emotional abilities together with personality, motivation and affective dispositions, i.e., emphasising on array of competencies and skills. Ability EI has typically been assessed by maximal-performance measures, like IQ measures , and such measures have generally been more correlated to intelligence constructs than to personality (Brackett & Mayer, 2003; Lopes, Salovey, & Straus, 2003; O_Connor & Little,
Mixed EI models have been assessed by self-report measures, which tend to correlate with personality dimensions (Dawda & Hart, 2000; Saklofske, Austin, & Mininski, 2003; Van Der Zee, Thijis, & Schakel, 2002). The measure of ability EI is MSCEIT and for mixed model it is ECI-Emotional Competency Inventory and ESCI-Emotional Social Competency Inventory. The third model is trait model by K V Petrides. It is based on self-perception of emotional abilities.

The components of EI considered in the present study are: Emotional Competency, Emotional Sensitivity and Emotional Maturity (Dr Dalip Singh & Dr. N.K. Chadha, 2003). Emotional Competency consists of Tackling emotional upsets, High self-esteem, Tactful response to emotional stimuli, Handling egoism. Emotional Sensitivity contains Understanding threshold of emotional arousal, Empathy, Improving inter-personal relations and Communicability of emotions. Emotional Maturity consists of Self-awareness, Developing others, Delaying gratification and Adaptability and flexibility.

1.2 Emotional Intelligence and Age

There is a positive relation between EI and age. EI develops or increases with age and experience (Goleman, 1998; Salovey & Mayer, 1990; Maddocks & Sparrows, 1998). In certain studies it has been found that EI increases with age at least up to (40-50 years of age) fourth or fifth decade in life (Bar-on, 2000; Kafetsios, 2004; Stein, 2009; Bradberry & Greaves, 2005; Singh 2006). There are certain aspects of EI that can only be developed with training (Fariselli, Ghini, & Freedman, 2006). Research was conducted for EI Bar-on model (Bar-on, 1988) with the use of EQ-i (Emotional Quotient Inventory) tool on sample size of 3891 in the age ranging 20 to 50 years. The study showed that older people scored higher than the younger ones. Also respondent in their late 40s obtained highest mean scores (Bar-On,1997b; Bar-On, 2004). Another study indicates that youth with age 7 to 18 years shows higher score for EI in the oldest groups of the sample size (Bar-On & Parker, 2000b).

Another research data collected from 2001 to 2010 for the responses collected on individual Effectiveness (i.e.) questionnaire of EI by JCA (Maddocks & Sparrow, 1998) on sample size of 12,417 with the age between 16 to 50 plus years. It showed that the overall score increases consistently with age. But one of the study conducted on sample of 405, ageing between 22 and 70 years using the tool SEI 2- Six seconds’ Emotional Intelligence Assessment showed that some part of EI increases with age( r=0.13, p<0.01). This change in EI with age is slight but significant but there are certain elements of EI that do not increase with age indicating that certain competencies need to be developed by training(Fariselli, Ghini & Freedman, 2006).

As per the research studies discussed above, the present study aims to find the pattern of change in EI and its components with age (range of 17 to 60 years of age). As till now none of the studies gives a solid evidence for the pattern of EI with age, this study tries to find the pattern by grouping age in three different stages (Young Adulthood (17-23 years), Middle age (24-34 years), Mature age (35-60)). This helps in giving a defined pattern for each age group. These age groups are inspired and directed by Erik Erikson (1950, 1963) psychosocial stages.

The Young Adulthood group is youngest group of all which has the basic learning stage. This stage is also considered inexperienced and naïve. The Middle age group is considered to be the mid-life experience where the maximum events are to be handled on professional and personal front. The Mature age is also experienced by complexities but the maturity and experience makes this stage more responsible and it is able to convert their knowledge into wisdom. These definitions of the age groups are generic and may differ person to person with certain exceptions.

II. METHODS

2.1 Participants, procedure and statistical approach

The study was conducted with a sample of 186 respondents in the age group of 17-60 years. The respondents were of Indian origin living in North India. All the participants were well educated with their educational background ranging from high school education to higher level education (post-graduation). Young-adulthood age group consisted of engineering students and higher age groups consisted of engineers working in firms. This sampling helped in neutralizing the effect of regional and professional bias. The continuous age was clustered as Young-Adulthood (17-23 years), Middle-age (24-34 years) and Mature-age (35-60). The age groups had continuous respective EI score for each age value. Therefore the data collected for age is interval data. The study is based on exploratory research where a self-report questionnaire by Singh & Chadha(2006) was filled on the basis of the EI and its components. Total sample size of 186 was taken for the study in which regression analysis and ANOVA test was used to analyse the pattern of EI and its components. The analysis was done using Eviews and Excel. The main objective of the study is to analyse EI and its components among all the age groups. And then to find the impact of three components of EI on the total EI among all the age groups and compare three components of EI among all the age groups. The hypothesis formulated as per the previous studies and present objectives of the study hypothesized for no significant change in the EI score with age, no significant change in the Sensitivity, Competency and Maturity with age, no significant impact on EI due to its components in respective age groups and no significant correlation between three components of EI.

2.2 Measures

**Emotional Intelligence**

The tool contains 22 situational questions with test-retest and split-half reliability of 0.94 and 0.89 respectively and validity of 0.89 with sample size of 150. The empirical validity was confirmed by correlating with Daniel Goleman test with 60
subjects and it came out to be 0.92. Also for validity index the scale was co-related with EI scale developed by chadha (2001) for 60 subjects and it came out to be 0.78. To avoid socially desirable responses situation selection method was used in the scale. The situations are used which were relatively neutral to avoid response bias. In order to achieve this, the situations were analysed by five experts/judges on psychological, emotional and behavioural aspects with nine point rating scale ranging from ‘extremely desirable’ to ‘neutral’ to ‘extremely undesirable’. The instructions given to experts were based on Edward socially desirable dimensions.

III. RESULTS

3.1 Measurement analysis of EI and its components

<table>
<thead>
<tr>
<th>Table1: Measurement analysis of EI and its components:</th>
<th>Mean (standard deviation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean EI</td>
<td>Mean Sensitivity</td>
</tr>
<tr>
<td>G1 347.96(29.09)</td>
<td>86.76(11.65)</td>
</tr>
<tr>
<td>G2 342.74(40.10)</td>
<td>85.08(14.39)</td>
</tr>
<tr>
<td>G3 355.77(42.59)</td>
<td>85.87(13.16)</td>
</tr>
</tbody>
</table>

Author’s calculations

It can be seen that EI is highest for mature age (G3). Maturity and competency is also highest for G3. But Sensitivity is highest in Young adulthood (G1). The possible reason may be early age of life is more sensitise to outer world as experience and learning is in a naïve stage. A pattern can be analysed in almost all components and in EI itself, the measure decreases from G1 to G2 (except in emotional competency) but increase from G2 to G3. It has the possible reasoning, the EI structure if taken as ability, is active at young stage but with time in middle age it may degrade due to pragmatic behavioural pattern and may increase in mature age with more developed thinking process (Fariselli, Ghini, & Freedman, 2006). But with the standard deviation involved, the clear picture can be taken from median values.

<table>
<thead>
<tr>
<th>Table2: Measurement analysis of EI and its components:</th>
<th>Median (actual scores median)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median EI</td>
<td>Median Sensitivity</td>
</tr>
<tr>
<td>G1 350.00</td>
<td>90.00</td>
</tr>
<tr>
<td>G2 355.00</td>
<td>90.00</td>
</tr>
<tr>
<td>G3 370.00</td>
<td>90.00</td>
</tr>
</tbody>
</table>

Author’s calculations

It can be seen that there is an increment in the total EI score with age (G1 < G2 <G3). Thereby meaning, the EI can be considered as an ability which can be learned with experience, wisdom and knowledge (Fariselli, Ghini, & Freedman, 2006). Also, increment can be seen in emotional maturity which can be explained with a positive correlation of age with maturity. The emotional sensitivity has almost remained constant not showing any impact of increasing age. Whereas, a different pattern can be seen in emotional competency that is low in middle age, but increased in mature age (exhibiting pattern from mean table above).

3.2 Impact of the Competency, Sensitivity and Maturity on EI in all the age groups independently. (*percentile scores)

3.2.1 Competency within age groups

Figure 1: Regression Analysis of EI & competency for young adulthood-G1(Eviews)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>9.75464</td>
<td>15.62640</td>
<td>0.624230</td>
<td>0.5345</td>
</tr>
<tr>
<td>G1_C_P_</td>
<td>0.87946</td>
<td>0.176302</td>
<td>4.998339</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

R-squared 0.265050  Mean dependent var 87.80563
Adjusted R-squared 0.254399  S.D. dependent var 7.693106
S.E. of regression 6.642828  Akaike Info criterion 6.652747
Sum squared resid 3044.886  Schwartz criterion 6.716498
Log likelihood -234.1725  Hannan-Quinn criter. 6.678094
F-statistic 24.88396  Durbin-Watson stat 2.037976
Prob(F-statistic) 0.000004

Figure 2: Regression Analysis of EI & competency for middle age-G2(Eviews)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-74.16867</td>
<td>15.85087</td>
<td>-4.670920</td>
<td>0.0000</td>
</tr>
<tr>
<td>G2_C_P_</td>
<td>1.605556</td>
<td>0.179698</td>
<td>9.047086</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

R-squared 0.627227  Mean dependent var 64.83871
Adjusted R-squared 0.621014  S.D. dependent var 11.56766
S.E. of regression 7.115125  Akaike Info criterion 6.790465
Sum squared resid 3037.500  Schwartz criterion 6.862666
Log likelihood 208.6155  Hannan-Quinn criter. 6.820990
F-statistic 100.3558  Durbin-Watson stat 2.257576
Prob(F-statistic) 0.000000

Figure 3: Regression Analysis of EI & competency for mature age-G3(Eviews)
From the figures 1, 2 and 3, it can be analysed that EI for three age groups is dependent on emotional competency (p=0.00). But if see the adjusted r² square for three groups, (adjusted r²2, G1=0.25, G2=0.62, G3=0.59) and the F-statistics (F-stat, G1=24.88, G2= 100.96, G3= 74.02), it shows that the emotional competency effects emotional intelligence maximum during middle age and higher during mature age. Meaning thereby, competency has a greater impact on EI in middle and mature stage than in young adulthood. The reason may be as in young stage, the experience and learning is in naïve stage.

3.2.2 Sensitivity within age groups

From the figures 4, 5 and 6, it can be analysed that EI for three age groups is dependent on emotional sensitivity (p<0.05). But if see the adjusted r² square for three groups, (adjusted r²2, G1=0.11, G2=0.37, G3=0.32) and the F-statistics (F-stat, G1=9.58, G2= 36.36, G3= 24.75), it shows that the emotional sensitivity effects emotional intelligence maximum during middle age and higher during mature age. Meaning thereby, sensitivity has a greater impact on EI in middle and mature stage than in young adulthood. The reason may be as in young stage, the experiences are less and decision making is weak. With time and learning, sensitivity increases (Fariselli, Ghini, & Freedman, 2006).

3.2.3 Maturity within age groups
Figure 9: Regression Analysis of EI & maturity for mature age-G3 (Eviews)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>58.2895</td>
<td>4.991672</td>
<td>11.27867</td>
<td>0.0000</td>
</tr>
<tr>
<td>G3_M_P_</td>
<td>0.406541</td>
<td>0.087015</td>
<td>4.696222</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

From the figures 7, 8 and 9, it can be analysed that EI for three age groups is dependent on emotional maturity (p<0.05). But if see the adjusted r*-square for three groups, (adjusted r*², G1=0.13, G2=0.23, G3=0.41) and the F-statistics (F-stat, G1=11.74, G2=18.82, G3=37.16), it shows that the emotional maturity effects emotional intelligence maximum during mature age and higher during middle age. Meaning thereby, maturity has a greater impact on EI in mature and middle stage than in young adulthood. The reason may be as in young stage, the maturity to access emotions is less.

It can be seen that unlike the similar patterns of competency and sensitivity, maturity exhibit a different pattern. The impact of maturity on EI is seen maximum in mature age, whereas the impact of competency and sensitivity is seen maximum in the middle age on EI. It states that competency and sensitivity have better hand on defining EI in middle age, with the possible reasoning of middle age being the most interactive, good experience and learned stage of life (Goleman, 1998; Salovey & Mayer, 1990; Maddocks & Sparrows, 1998).

3.3 Analysis of three age groups for EI and its components

From the figures 10, 11 and 12, it can be analysed from the three EI structures (different age groups: G1, G2, G3) that in young adulthood G1 and middle age G2, the three components of EI- Sensitivity, Competency and Maturity has a significant impact on the respective EI (P<0.05) but in mature age G3, the impact of sensitivity is not significant (p=0.0695, p>0.05). The adjusted r-squares of three structures(adjusted r², G1: 0.42, G2:0.75, G3:0.75) shows that middle age G2 and mature age G3 structure models are better fit than young childhood G1. The F-Statistics (probability) for three structures is p=0.0000(p<0.05), thereby all having overall significance. But, F-statistics (G1: 17.57, G2: 60.64, G3:52.32), showing again that G2 and G3 are better fit than G1. This shows that the responses for the young childhood G1 have more variations. This may be due to the fact the young people may not have the right idea about their own emotions as they must not be clear about their SWOT (strength, weakness, opportunity and threat) analysis.

3.4 Correlation between components of EI in each age group

Table 3: Analysis of Young Adulthood for EI components

<table>
<thead>
<tr>
<th>Component</th>
<th>G1 Sensitivity</th>
<th>G1 Competency</th>
<th>G1 Maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity</td>
<td>1.0000</td>
<td>0.1517</td>
<td>0.1818</td>
</tr>
</tbody>
</table>
From the above correlation table, it can be observed that Young adulthood G1 does not show any significant correlation among the components of EI. The main reasoning for not having any relevant correlation is that this stage of age is naïve and is unable to exhibit a generic pattern of emotional processing and is deviated from external sources as this age is vulnerable and personality building stage. Also it can be observed that middle age G2 has maximum and relevant correlation of 0.57 between sensitivity and competency, meaning thereby that higher the sensitivity toward emotional stimuli, higher is the competency for emotional processing. In G2, correlation between sensitivity and maturity is 0.52. Also in G2, correlation between maturity and sensitivity is 0.52, which is less than 0.8 but comparatively higher including all models. Similar trend can be seen in mature age G3 in sensitivity-maturity, competency-maturity correlations.

IV. CONCLUSION
The total EI increases with age (Bar-On, 2000; Kafetsios, 2004; Stein, 2009; Bradberry & Greaves, 2005; Singh 2006). Also the median Maturity increases with age. But the pattern of competency is different, i.e., decreasing from young adulthood to middle age and then increasing from middle age to mature age, supporting that certain competencies have to be developed by training and are not governed by age factor (Fariselli, Ghini & Freedman, 2006). Also it was observed that emotional sensitivity is not impacted by age.

The emotional competency significantly impacts EI in middle and mature age than in young adulthood stage (Fariselli, Ghini & Freedman, 2006). Also, emotional sensitivity and maturity significantly impacts EI in middle and mature age than in young adulthood stage. Maturity exhibits a different pattern than the competency and sensitivity, as maximum for mature age, whereas competency and sensitivity are found maximum for middle age.

Young adulthood and middle age has significant impact of all the three components on EI. Whereas, emotional sensitivity does not significantly impact EI in mature age (In direction to the above finding of emotional sensitivity is not impacted by age). The overall significance in middle and mature age is more than in young adulthood group, thereby depicting that with age, these components of EI are more relevant and significant due to constant learning, training and experience (Fariselli, Ghini, & Freedman, 2006).

The young adulthood group has no significant correlation between components of EI. The middle age has maximum and relevant correlation between sensitivity and competency, meaning thereby that higher the sensitivity toward emotional stimuli, higher is the competency for emotional processing. In mature maximum correlation is between maturity and sensitivity, meaning thereby higher the maturity for emotions, higher is the sensitivity towards emotions. So, for young adulthood no certain pattern was found but for middle and mature age, it can be detected (Goleman, 1998; Salovey & Mayer, 1990; Maddocks & Sparrows, 1998).

REFERENCES

| Table 4: Analysis of Middle Age for EI components |
|-----------------|----------------|----------------|
| G2 SENSITIVITY  | G2 COMPETENCY  | G2 MATURITY    |
| 1.0000          | 0.5724         | 0.5247         |
| G2 COMPETENCY   | 0.5724         | 1.0000         |
| G2 MATURITY     | 0.5247         | 0.4073         |

| Table 5: Analysis of Mature Age for EI components |
|-----------------|----------------|----------------|
| G3 SENSITIVITY  | G3 COMPETENCY  | G3 MATURITY    |
| 1.0000          | 0.4465         | 0.5210         |
| G3 COMPETENCY   | 0.4465         | 1.0000         |
| G3 MATURITY     | 0.5210         | 0.5232         |

Author’s calculations


[58]. Response Books.