TESTING THE DEVELOPMENTAL ABILITY OF LEADER'S EMOTIONAL INTELLIGENCE WITH AGE ON ESCI

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Abstract:
This study examined the developmental ability of emotional intelligence with age using ESCI, a re-conceptualized measure of ECI 2 thru an upward feedback method. The sample included leaders (n=500) between the age range of 24-62 years belonging to various IT and manufacturing companies of India and their raters were direct reports (n=1500) between the age range of 19-62 years. The study finds that, EI of leaders (as perceived by self and others) consistently increases with age (from 24 to 45 years) but after reaching its peak at 45 years it declines in the fifth and sixth decade of life due to the decline in the Self-awareness competencies among older leader's. The agreement in self-others ratings proved to be a better predictor of rater accuracy in evaluating leader's EI on ESCI.

Key Words: Emotional Intelligence, Age, ESCI, Self-others ratings, Upward feedback method

Introduction

One of the important factors contributing to the popularity of theories of emotional intelligence (EI) is the assumption that, EI can be developed (Emmerling & Goleman, 2003) and learned at all ages (Shapiro 1997, Goleman, 1998). Unlike cognitive intelligence (IQ) which increases up until late adolescents and then begins to mildly decline in the second and third decades of life (Wechsler, 1958); EI is neither hereditary, nor its development occur in early childhood ages; as one gets older, one becomes more emotionally and socially intelligent (Bar-On, 2006). Though there has been a great degree of skepticism on this point, growing research related to outcome studies and program evaluations reported by the popular measures of EI construct namely, ECI (Boyatsis, Goleman, & Hay/McBer, 1999; Hay Group, McClelland Center for Research and Innovation, & Wolff, 2005), EQ-i (Bar-on, 1997), MSCEIT (Mayer, Salovey, & Caruso, 2002), SEI 2 (Fariselli, Ghini, & Freedman, 2006), ie-Q (Maddocks & Sparrow, 1998) and other equivalent measures of EI provide evidences that EI competencies can be developed (Emmerling & Goleman, 2003) with increasing age and life experiences (Singh, 2006); However, additional evaluation studies would be a welcome addition to the literature (Emmerling & Goleman, 2003).

The current study has been designed to examine the developmental ability of EI with age among the leaders of varying age groups between 20's to 60's. The upward feedback obtained from the direct reports on Emotional and Social Competency Inventory (ESCI), a re-conceptualized measure of ECI 2 (Boyatzis, 2007) will serve as a rater source to validate the self-other's perception of leader's emotional intelligence on ESCI.

Emotional Intelligence and Age

Goleman (1998a) refers to emotional intelligence as a set of competencies, or abilities to recognize, understand, and use emotional information about oneself or others that leads to or causes effective or superior performance. And, an emotional competence is a *learned capability based on emotional intelligence that contributes to effective performance at work* (Goleman, 1998b) often with an emphasis on those in leadership positions (Emmerling & Goleman, 2003).

Within the emotional intelligence paradigm there exist not one, but several theories (e.g. Bar-On, 2000; Goleman, 1995:1998; Mayer & Salovey, 1997), all share a common desire to understand and measure the abilities and traits related to recognizing and regulating emotions in ourselves and others (Goleman, 2001). Similarly, reviews of popular theories on the relatedness of EI and age reveal that, emotional intelligence is a developing ability; there is a positive relationship between age and EI

and that EI increases or develops with age and experience (Goleman, 1998; Salovey & Mayer, 1990; 1993; Maddocks & Sparrow, 1998); the influence of age proposes that EI goes up with age, at least up to the fourth or fifth decade in life (Bar-on, 2000; Kafetsios, 2004; Stein, 2009; Bradberry & Greaves, 2005; Singh, 2006); some of the aspects of EI can only be developed through training (Fariselli, Ghini, & Freedman, 2006).

Review Of Literature

The most popular measure of Goleman's (1998) theory of emotional competence is the Emotional Competence Inventory (ECI and ECI 2). Research findings reported in ECI manuals (Boyatsis, Goleman, & Hay/McBer, 1999; Hay Group, McClelland Center for Research and Innovation, & Wolff, 2005) reveal that, self and total others ratings were positively correlated with age; self-others ratings for older participants were higher in all the EI competencies than younger participants. Since, ESCI (Boyatzis, 2007) is a new measure, its predictive validity with other outcomes and demographics are yet to be explored and validated.

Research conducted on Bar-on model of EI (Bar-On, 1988) using the Emotional Quotient Inventory (EQ-i) on the population sample of 3,891 consisting people from ages 20 to 50 showed that the older groups scored significantly higher than the younger groups on most of the EQ-i scales; and respondents in their late 40s obtained the highest mean scores (Bar-On, 1997b; Bar-On, 2004). Also, a study on the youths aging 7 to 18 revealed that EI was significantly higher among the oldest group of subjects (Bar-On & Parker, 2000b).

Overall research data collected between 2001 to 2010 from the users of the Individual Effectiveness (ie) questionnaire of EI by JCA (Maddocks & Sparrow, 1998) on the sample of 12,417 working individuals, mainly from the UK managerial population reveal that, overall scores on EI increase consistently with age (from 16 to 50+). However, review of a study conducted on 405 American people between 22 and 70 years old using the Six Seconds' Emotional Intelligence Assessment (SEI 2) finds that some parts of emotional intelligence do increase with age [$r=.13$ ($p<.01$)], though the effect is slight but significant. In addition there are elements of EQ that do not increase with age indicating some competencies must be developed through training (Fariselli, Ghini, & Freedman, 2006).

In light of the above findings, the study aims to thoroughly investigate whether leader's EI increases with leader's age on the self and others versions of ESCI and to determine which cluster of emotional and social intelligence competencies increases the most when there is an increase in leader's age.

Researh Questions

The study attempted to answer the following research questions:

1. Are there any differences in the EI scores of young (<35 years), middle-aged (between 35-45 years) and old (>45 years) leaders with respect to their self and others ratings?
2. Does leader's emotional intelligence increase with the increase in the age of the leaders?
3. Which of the four clusters of emotional and social intelligence competencies show the strongest association with age of the leaders?

Method

Sample

The sample of the study is composed of 500 leaders aged between 24-62 years old and their raters were 1500 direct reports (three raters per leader) aged between 19-62 years belonging to various well established IT and manufacturing companies of India. Purposive random sampling method and convenience random sampling method was applied to choose the respondent leaders and their raters respectively.

Measure

Emotional and Social Competence Inventory 3.0 (ESCI)

The Emotional and Social Competency Inventory (ESCI) encompasses 68 items within 12 emotional and social competencies organized into four clusters same as the ECI-2 competencies, Self-

Awareness, Self-Management, Social-Awareness, and Relationship management. The reliability of the scales in the ESCI remains comparable with the ECI-2 (Hay Group, McClelland Center for Research and Innovation, & Wolff, 2005). Pilot study (n=1022) has shown the ESCI to have an overall average internal consistency coefficient of 0.79 for total others ratings. A principal axis Exploratory Factor Analysis with promax rotation showed the factor analytic properties of the instrument to be outstanding. ESCI affirms the accurate measurement of the behaviors that contribute to effective performance (Boyatzis, 2007).

Reliability analysis

In the current study, the scale reliability on the ESCI calculated for rater group (direct reports) remained comparable with ESCI pilot study. The ESCI cluster-wise reliabilities for self-ratings ranged from .71 to .87 (self-awareness .75, self-management .86, social awareness .71, and relationship management .87) while the total others-ratings ranged from .87 to .97 (self-awareness .87, self-management .97, social awareness .91, and relationship management .97). The Cronbach's α values of the current study are higher in comparison to the ESCI pilot study reliabilities indicating highly adequate reliabilities for ESCI that the data acquired from the scale is reliable and can be used for further analysis.

Procedure

A total of 800 leaders having a minimum of three or more direct reports who are working with them for more than six months were identified and administered the self-version of the ESCI questionnaire. Similarly, the 360^0 version of ESCI questionnaire's were randomly distributed to three of the direct reports of the chosen 800 leaders and were asked to rate the respondent leaders. Out of the pool of returned questionnaires, 500 leaders and their 1500 raters meeting the ESCI norms were randomly selected for further analysis. Using the ESCI scoring instructions (Boyatsis, Goleman & Hay/McBer, 1999) average scores for each of the four clusters were computed for both self and others ratings.

Statistical Analysis

The scored data for all the four clusters of ESCI was fed into SPSS 19.0 and the leaders sample was categorized into three groups based on their age ranges as young (<35 years), middle-aged (between 35-45 years) and old (>45 years). Descriptive statistics was used to obtain cluster-wise mean scores and standard deviation for both self and others ratings of ESCI based on age groups. One-Way ANOVA and Tukey's HSD procedure was used for post-hoc pair-wise comparisons between the leader's age groups and self-others ratings of ESCI. Further, Linear regression was used to establish whether increase in leader's age explained variance in any of the four clusters of emotional and social intelligence competencies.

RESULTS

Question 1: Are there any differences in the EI scores of young, middle-aged and old leaders with respect to their self and others ratings?

Results on the one-way ANOVA shows that self ratings and others ratings of leaders EI differed significantly across the young, middle aged and old leaders as the $p<0.001$ for all the four EI clusters (see Table 1).

Table 1 - Descriptive statistics and results of One-way ANOVA for self-others ratings

EI Clusters	Age Groups	N	Mean		Std. Deviation		Self Ratings		Others Ratings	
			Self Ratings	Others Ratings	Self Ratings	Others Ratings	F	Sig.	F	Sig.
Self Awareness	Young	160	4.31	3.72	0.71	0.79	9.941	0.00	8.97	0.00
	Middle Aged	190	4.35	3.97	0.55	0.64				
	Old	150	4.57	3.67	0.37	0.71				
	Total	500	4.40	3.80	0.57	0.72				
Self Management	Young	160	4.46	3.94	0.41	0.67	13.509	0.00	11.609	0.00
	Middle Aged	190	4.51	4.07	0.33	0.58				
	Old	150	4.65	3.73	0.27	0.69				
	Total	500	4.53	3.93	0.35	0.66				
Social Awareness	Young	160	4.45	3.92	0.43	0.62	10.087	0.00	13.757	0.00
	Middle Aged	190	4.48	4.04	0.37	0.58				
	Old	150	4.63	3.67	0.31	0.73				
	Total	500	4.51	3.89	0.38	0.66				
Relationship Management	Young	160	4.48	3.92	0.38	0.67	7.779	0.00	12.96	0.00
	Middle Aged	190	4.50	4.05	0.37	0.60				
	Old	150	4.62	3.69	0.27	0.69				
	Total	500	4.53	3.90	0.35	0.66				

**. The mean difference between groups is significant at the 0.001 level.

From the self-others mean scores it is very evident that the leaders have consistently overestimated themselves on all the four EI clusters as their mean scores range between 4.31 to 4.65 whereas for others ratings they range from 3.67 to 4.07 which shows that others ratings are more accurate than the self ratings. Overall mean scores for EI clusters indicate leader's strengths and weaknesses. Both the leaders and direct reports find the respondent leaders to be strong in Self management (M=4.53, 3.93) and Relationship management (M=4.53, 3.90) competencies followed by Social awareness (M=4.51, 3.89) while mean scores indicated the leaders to be weak in Self awareness related competencies (M=4.40, 3.80).

Tukey post-hoc comparisons (see Table 2) of the leaders age groups across cluster-wise self-ratings and others-ratings of leaders EI indicate that the young and middle-aged leaders did not differ significantly ($p>0.05$) in their level of Self management, Social awareness and Relationship management competencies. When it came to Self awareness cluster, leader's ratings and direct reports ratings differed significantly as the leader's perceived the old aged leaders to be significantly different ($p<0.05$) from young and middle aged leaders while, the direct reports perceived the old aged leaders not significantly different ($p>0.05$) from their young leader's.

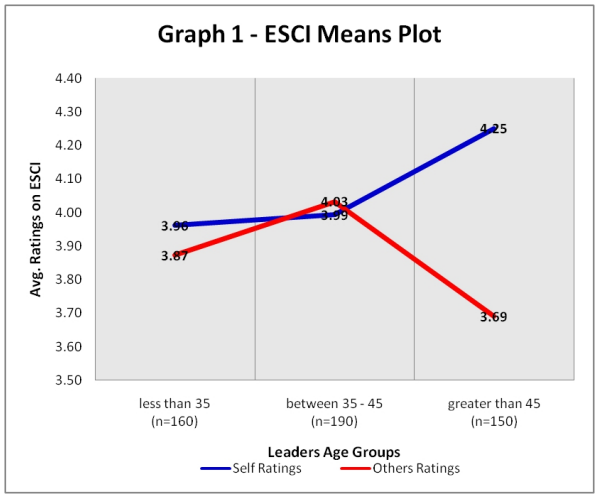
Table 2 – Turkey HSD Post-Hoc test of multiple comparisons of leader's age

ESCI Clusters	(I) Leaders Age groups	(J) Leaders Age groups	Self Ratings	Others Ratings
			Sig.	
Self Awareness	less than 35	between 35 - 45	0.743	**0.004**
		greater than 45	**0**	0.778
	between 35 - 45	less than 35	0.743	**0.004**
		greater than 45	**0.001**	**0**
	greater than 45	less than 35	**0**	0.778
		between 35 - 45	**0.001**	**0**
Self Management	less than 35	between 35 - 45	0.355	0.128
		greater than 45	**0**	**0.015**
	between 35 - 45	less than 35	0.355	0.128
		greater than 45	**0**	**0**
	greater than 45	less than 35	**0**	**0.015**
		between 35 - 45	**0**	**0**
Social Awareness	less than 35	between 35 - 45	0.609	0.186
		greater than 45	**0**	**0.003**
	between 35 - 45	less than 35	0.609	0.186
		greater than 45	**0.001**	**0**
	greater than 45	less than 35	**0**	**0.003**
		between 35 - 45	**0.001**	**0**
Relationship Management	less than 35	between 35 - 45	0.718	0.152
		greater than 45	**0.001**	**0.005**
	between 35 - 45	less than 35	0.718	0.152
		greater than 45	**0.006**	**0**
	greater than 45	less than 35	**0.001**	**0.005**
		between 35 - 45	**0.006**	**0**

*. The mean difference is significant at the 0.05 level.
**. The mean difference is significant at the 0.001 level.

Means plot (see Graph 1) obtained for overall mean scores of self-ratings for young (M=3.96), middle-aged (M=3.99) and old (M=4.25) leaders shows that older leaders whose age is greater than 45 years have rated themselves very high on EI while the middle-aged and young leaders have rated themselves moderately or we can say more or less accurately. We can notice the increase in EI with the increase in the leader's age (M=3.96 - 4.25) for self-ratings. Overall mean scores of others-ratings for young (M=3.87), middle-aged (M=4.03) and old (M=3.69) leaders shows that older leaders whose age is greater than 45 years were rated the lowest by the direct reports on EI followed by young leaders (whose age is <35 years) while the middle-aged leaders were rated high on EI. Surprisingly there was a steep decrease in the raters scores of leader's EI from middle-aged to older leaders (M=4.03 to 3.69).

However, when the mean self ratings were compared with the others-ratings, average EI self-others ratings remained within the comparable ranges for young (M=3.96; 3.87) and middle-aged leaders (M=3.99; 4.03) indicating higher levels of agreement in the self-others perception of leaders EI, while the vast gap (80%) in self-other ratings of old leaders (M=4.25; 3.69) indicated disagreement of self-others perception of leaders EI. A higher level of congruence was noticed for middle-aged leaders with a mean gap of -0.04.



Question 2: Does leader's emotional intelligence increase with the increase in the age of the leaders?

Simple regression analysis was performed using leader's age as a predictor variable on two outcome variables namely self-ratings of leaders on ESCI and others-ratings of direct reports on ESCI. Table 3 shows the model properties and predictor properties for self-others ratings.

Table 3 – Regression results – Age on self-others ratings

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	DF	F	B (Unstandardised Coefficients)	Std. Error	t-value	p-value
Age on Self-Ratings	0.212	0.045	0.043	0.3335	1, 498	23.51	0.009	0.002	4.849	0
Age on Others- Ratings	0.084	0.007	0.005	0.64024	1, 498	3.522	-0.006	0.003	-1.877	0.061

**. p value is significant at .001 level

The results obtained from the regression analysis indicates that leader's age is positively correlated (R=0.212) with self-ratings of leaders on ESCI and the variance accounted for R^2 with leaders age equaled .05 (adjusted R^2 = .04), which was significantly different from zero (F(1, 498)=23.51, p<.001), therefore, about 5% of the variation in leader's self-ratings is explained by the age of the leaders. Positive coefficient (b=0.009) indicates that as the age increases, emotional intelligence will also increase.

Similarly, leader's age (predictor) was loaded with others-ratings (dependant variable). The model properties indicate that leader's age is not statistically significant (F(1, 498)=3.522, p=0.061) and the coefficient is negative (b=-0.006) which indicates that age and emotional intelligence are not related that when leader's age increases, emotional intelligence decreases.

Question 3: Which of the four clusters of emotional and social intelligence competencies show the strongest association with age of the leaders?

Table 4 – Regression results of self-ratings – Age on EI Clusters

Model of Self-Ratings	R	R Square	Adjusted R Square	Std. Error of the Estimate	DF	F	B	Std. Error	t-value	p-value
Age on Self awareness	0.188	0.035	0.033	0.56331	1, 498	18.231	0.013	0.003	4.27	0.00
Age on Self management	0.221	0.049	0.047	0.34396	1, 498	25.502	0.009	0.002	5.05	0.00
Age on Social awareness	0.197	0.039	0.037	0.37378	1, 498	20.182	0.009	0.002	4.492	0.00
Age on Relationship mangement	0.174	0.03	0.028	0.34436	1, 498	15.588	0.007	0.002	3.948	0.00

**. *p* value is significant at .001 level

Results obtained on simple regression analysis (see Table 4) shows that all the four clusters of EI are statistically significantly (p<.001) and positive coefficients (B) indicate that increase in the age accounts for increase in the self-ratings. Also, leader's age accounts for 5% variance in self-management cluster (R^2 = .049, F(1, 498)=25.502, p<.001) indicating slight increase in self-management competencies with age.

Table 5 – Regression results of others-ratings – Age on EI Clusters

Model of Others-Ratings	R	R Square	Adjusted R Square	Std. Error of the Estimate	DF	F	B	Std. Error	t-value	p-value
Age on Self awareness	0.008	0	-0.002	0.72412	1, 498	0.036	0	0	-0.19	0.85
Age on Self management	0.088	0.008	0.006	0.65543	1, 498	3.919	-0.007	0	-1.98	0.048
Age on Social awareness	0.127	0.016	0.014	0.65234	1, 498	8.196	-0.01	0	-2.863	0.004
Age on Relationship mangement	0.102	0.01	0.008	0.66091	1, 498	5.242	-0.008	0	-2.29	0.022

**. *p* value is significant at .05 level

On the other hand, regression analysis of the direct reports ratings of leaders EI on four clusters (see table 5) shows that, Self management (R^2=.008, F(1, 498)=3.919, p=0.048), Social awareness (R^2=.016, F(1, 498)=8.196, p=0.004) and Relationship management (R^2=.01, F(1,

498)=5.242, p=0.022) clusters of EI to be statistically significant as their p<0.05. The coefficients for Self management (b=-0.007), Social awareness (b=-0.01) and Relationship management (b=-0.008) indicate negative influence of age on EI. Older leaders were perceived to be low in their Self management, Social awareness and Relationship management competencies by their direct reports. Self awareness cluster was statistically not significant (R^2=.0, F(1, 498)=0.036, p=0.85) which indicates that age is not related to leaders self awareness as perceived by their direct reports.

Discussion

The developmental value of leader's age on leader's EI as perceived by leaders and their direct reports on ESCI was thoroughly investigated using the combinations of highly used statistical techniques. Analysis of the self-ratings of leaders EI revealed that older leaders (aged above 45 years) perceived themselves to be high in EI while the direct reports perceived the older leaders to be low in their EI.

Comparison of self-others ratings revealed that self-ratings are significantly higher than the ratings of others (Yammarino & Atwater, 1993; Nowack, 1997, Hay Group, McClelland Center for Research and Innovation, & Wolff, 2005). High self-ratings and low others-ratings indicated over-estimation (Fleenor et al., 2010) of EI by the leaders. However, congruence of self-others perception (i.e. smaller gaps in the self-others ratings) of leader's EI was observed for the middle-aged leaders followed by young leaders indicating accurate self assessment (Carulli & Com, 2003). Further, multiple comparison of self-others ratings between leader's age groups and ESCI clusters revealed that both leader and direct reports perceived the young and middle-aged leaders to possess same levels of self management, social awareness and relationship management competencies, while the older leaders were perceived to have lower levels of self-awareness competency. This shows that leaders between the ages of 35 to 45 years are highly self-aware (Mabe & West, 1982) than the older leaders of early 50's and 60's.

Implications

Extant literature on self-other ratings reveal that, self-ratings are less accurate than informants' view (e.g., Harris & Schaubroeck, 1988; Hough, Keyes, & Dunnette, 1983; Hofstee, 1994; John & Robins, 1993) and often suffer from a leniency bias (Podsakoff & Organ, 1986). But when self-ratings are coupled with information from others' (e.g. supervisors or peers or subordinates) ratings, they provide insight into one's level of self-awareness (Yammarino & Atwater, 1993). Hence, it is advisable to categorize the self-others scores into over-estimators, under-estimators and in-agreement groups (Fleenor et al., 1996) when evaluating rater accuracy in multi-rater EI measures such as ESCI.

Conclusion

This study finds that emotional intelligence of leaders (as perceived by self and direct reports) consistently increases with age (from 24 to 45 years) but after reaching an old-age-peak of 45 years (Singh, 2006) it declines drastically in the fifth and sixth decade of life. The large gaps in self-others perceptions of EI among older leaders who are in their early 50's and 60's indicate lack of self awareness. It may be that as we become older we focus more on our own wants and needs and less on others (Baker & Bichsel, 2006). We may also become more selective in who we spend time with and get emotionally close to (Maddocks, 2011). Overall, the increase in EI up until 45 years of age suggests emotional intelligence is a developing ability and that EI plateaus or reduces after middle-age (Kafetsios, 2004). It's never too late to develop our EQ; even people in their 80's can change – they can become more self-aware, optimistic and even empathetic (Stein, 2009). The developmental feedback of ESCI along with suitable training interventions may help the older leaders to improve their level of self-awareness and to increase their EI.

Acknowledgements

Researcher thanks Hay Group, Inc. for granting a free copy of the ESCI for research purpose

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