AN EXPLORATORY STUDY ON EMOTIONAL INTELLIGENCE: A COMPARISON BETWEEN UNIVERSITY STUDENTS AND STUDENTS LEADERS

Harris Shah Abd Hamid
Jumina Kimin

ABSTRACT

This paper presents an exploratory study that measured emotional intelligence (EI) trait among Malaysian university students. Student leaders and non-leaders were distinguished based on election processes at local universities. The total EI scale was shown to be highly reliable. Student leaders did not report higher EI score than non-leaders. Cumulative grade-point average (CGPA) was also similar between the two groups. However, the correlation between EI score and CGPA was positive and significant. The relationship between EI score and the number of school-related leadership positions was also found to be positive and significant. However, student leaders were no more likely to report having previous leadership positions than non-leaders. The university administration could utilise the EI model and scale used in this study to design appropriate EI training for the students and student leaders.

INTRODUCTION

To understand leadership emergence and effectiveness, researchers have examined the characteristics of leaders, the followers, and situation (Yukl, 2002; House & Aditya, 1997). However, much is yet to be gained by looking at traits and skills differentiating leaders from non-leaders. Summarising several research outcomes, House and Aditya (1997) list traits that consistently differentiate leaders from others. However, this list is by no means exhaustive nor final. The authors have indicated a potenially fruitful area of research by looking at a new conception of intelligence. Such a conception i.e. Gardner's multiple intelligence theory, has led to the development of a new construct called emotional intelligence (Goleman, 1995, 1998).

For grooming future business leaders within an organisation, Byham (1999) states the need to identify a high-potential individual and establish individually tailored leadership development program for the individual. By using findings from the research on leader traits and skill, these two needs can be met. However, Byham's suggestion could also be applied to grooming leaders at an earlier stage. Thus, it is important to determine variables that would predict future leaders. This study attempts to do so by investigating one aspect of personal characteristics that has been give a lot of attention by researchers and corporate leaders alike: emotional intelligence (Cherniss, 2000; Dearborn, 2002). Indeed, leadership textbooks have incorporated emotional intelligence
Salovey and Meyer (1990) define emotional intelligence as consisting of three adaptive abilities namely the ability (1) to appraise and express emotion, (2) to regulate emotions, and (3) to utilise emotions in solving problems. The first two abilities apply to oneself and others. Another definition contains an elaboration of the components of appraisal and utilising emotion. Emotional intelligence is said to refer to “an ability to recognize the meanings of emotions and their relationships, and to reason and problem-solve on the basis of them” (Meyer, Caruso & Salovey, 2000, p.267). Their model of emotional intelligence involves four branches namely ‘reflectively regulating emotions’, ‘understanding emotions’, ‘assimilating emotion in thought’ and ‘perceiving and expressing emotion’.

Other model offer different component numbers. The model of Dulewicz and Higgs (1999) has seven components (self-awareness, emotional resilience, motivation, interpersonal sensitivity, influence, intuitiveness, conscientiousness, and integrity). Meanwhile, Bar-On’s definition of emotional intelligence includes non-cognitive capabilities (Bar-On, Brown, Kirkcaldy, & Thome, 2000). Bar-On’s Emotional Quotient Inventory consists five composite factors (intra-personal, inter-personal, adaptability, stress management, and general mood) and 15 sub-scales.

Daniel Goleman has helped to popularise the term “emotional intelligence”. According to Goleman (1995 & 1998), emotional intelligence is an important factor in determining personal success as a student, teacher, parent, manager, and leader. However, hard evidence on the link between emotional intelligence and leadership is sparse (Higgs & Aitken, 2003; Palmer, Walls, Burgess & Stough, 2001). This paucity can be attributed to, among others, the differing ways of conceptualizing emotional intelligence. Petrides and Furnham (2000) have listed three main models that are used by researchers namely hierarchical model, (cognitive) ability model, and mixed models (personality variables plus cognitive ability). In the same publication Petrides and Furnham have distinguished trait EI from information-processing EI. Therefore, we can measure EI as a trait or as an information-processing skill or a combination of both.

One measure of EI as a trait has been developed by Schutte, Malouff, Hall, Haggerty, Cooper, Golden and Dornheim (1998). Noting the “need for a brief and validated measure of EI based on a cohesive and comprehensive model of EI” (p. 169), Schutte et al. have developed the self-report EI scale. The 33-item trait EI scale is based on the model of EI developed by Salovey and Mayer (1990). It is intended “to provide a solid foundation for a measure of individual’ current level of EI” (Schutte et al., 1998, p. 169). In their validation study, Schutte et al. have found that their measure of EI correlates with other relevant
measures of emotional intelligence. Modifications (changes in some items and addition of new items) to the original scales did not improve the scale's internal consistency reliability (Austin, Saklofske, Huang & McKenney, 2004). For the current study, the authors have retained the original items for translation into Malay or Bahasa Melayu. The translation work is aimed at producing an appropriate scale for the student participants and more importantly, for future use in the general local population.

The number of studies on the relationship between leadership and emotional intelligence is still small but growing. Many of these studies involved adult managers and used the survey method. One such study was conducted on 49 managers and 187 of their subordinates. Using Bar-On's self-report Emotional Intelligence Inventory, Barling, Slater, and Kelloway (2000) found that emotional intelligence was associated with three aspects of transformational leadership i.e. idealised influence, inspirational motivation, and individualised consideration.

Similarly, Higgs and Aitken (2003), using another self-report measure (EIQ Managerial), found some evidence to support the relationship between EI and leadership potential. Among the 40 managers studied at a leadership assessment/development centre, total EI score correlated with total overall assessment rating of leadership competencies. Meanwhile, two studies have related leadership to two different aspects or components of emotional intelligence. Shipper, Kincaid, Rotondo, and Hoffman (2003) surveyed managers in the US, UK, and Malaysia. They have found that there was a positive relationship between managerial effectiveness and self-awareness. Another study has found that displaying empathy can lead to leadership emergence (Kellet, Humphry & Sleeth, 2003).

The positive relationship between emotional intelligence and leadership is not found among adolescents. Charbonneau and Nicol (2002) measured EI among adolescents (mean age = 14.33 years) and did not find significant correlation between the trait EI score and peer nominations (as leaders). Summarising these findings, a common feature shared by the first three studies was their exploratory nature. More important is that the authors agreed that there exists sufficient evidence to warrant further research into the relationship between leadership and emotional intelligence.

To show that emotional intelligence is a unique construct, it has to be different or independent from other types of intelligence. However, the literature is still unclear on the relationship between emotional intelligence and cognitive intelligence. Schutte et al. (1998) found a very small negative, but non-significant, relationship between students' EI score and SAT score. When EI was correlated with GPA, a positive relationship was revealed.

O'Connor and Little (2003), using both self-report and ability-based measures of emotional intelligence, have found that the type of measure used resulted in different outcomes. The total self-report measure yielded a significant positive correlation with GPA. On the other hand, the total ability-based measure produced a very small positive non-significant correlation.
Other authors investigated gender differences in their study of emotional intelligence and cognitive ability. Using MSCEIT scales, Brackett, Mayer and Warner (2004) have found a positive relationship between emotional intelligence scores and Verbal SAT for males, females, and sample total. However, with college GPA scores, a significant positive correlation existed only in sample total.

Among secondary school students, Petrides, Frederickson and Furnham (2004) have found evidence for the role of EI as a moderator in the relationship between cognitive ability and academic performance. Parker, Summerfeldt, Hogan and Majeski (2004) have showed how self-report EI score were different between highly successful university students compared to relatively unsuccessful students. It seems that the relationship between emotional and cognitive intelligence also warrants further and deeper level of investigation.

Many studies on leadership mentioned above have shown that EI could be measured in adults. The present study is an attempt to measure trait EI among university students and relate it to leadership. If trait EI is an important trait for emerging leaders, then student leaders are expected to score higher on the EI measure.

The student leaders are also required by university regulations to have a respectable CGPA to hold office. Thus, the authors’ second hypothesis is that there is a stronger association between EI score and CGPA among the leaders. The third hypothesis is derived from the postulate that students’ leadership traits, including EI, that distinguish them as leaders at school level should also be expressed at university level. Moreover, if EI helps the student leaders to perform well (as a leader) in high school, the students are more likely to succeed in being elected or promoted a leader in university setting. Therefore, it is expected that current leaders would report a greater number of leadership positions in primary and secondary schools.

**METHOD**

**Participants.** A cross sectional survey was conducted among students in two public universities in Sabah. Target participants were students at the universities’ two campuses in Kota Kinabalu. The participants were student leaders who held student leader positions through campus elections. The questionnaire was administered to all available 120 student leaders. A sample of non-leader students was obtained and matched by sex. An accidental approach was used to sample non-leader students in each respective campus. Thus, the same number of male and female students were involved as non-leader participants. The mean age for students 21.5 (S.D. = 2.04). Participation was on voluntary basis and no payment was for their contribution.

**Materials.** A three-part questionnaire was used in this study, of which only two parts were relevant. The first part was the 33-item emotional intelligence scale (Schutte et al., 1998) that has been translated into Bahasa Melayu by the authors and adopted a 5-point response format where “1” represented “strongly
disagree” and “5” represented “strongly agree”. Thus, a high total score reflected higher EI. The original authors reported that the scale was unidimensional, reflecting a general EI factor (Schutte et al., 1998). However, in an exploratory factor analysis using varimax-rotated solution, Petrides and Frunham (2000) have produced four factors that they labelled ‘optimism/mood regulation’, ‘appraisal of emotion’, ‘social skills’, and ‘utilization of emotions.’ Using a more complex analysis, Saklofske, Austin and Minski (2003) have suggested a hierarchical factor structure with a superordinate factor and four lower-level factors. They have suggested that the scale could be analysed according to the total score and also according to the four factors. [The items in their four factors do not match those reported by Petrides and Furnham (2000).] The scale’s internal consistency ranged from 0.90 to 0.87, and its test-retest reliability was reported at 0.78 (Schutte et al., 1998).

The second part, which will not be included in this study, was a translation of the adapted Least Preferred Co-Worker Scale (DuBrin, 2000).

The participants’ background information formed the third part of the questionnaire. Items in this part included demographical variables, current CGPA, and previous school-related leadership position. The participants were asked to indicate the position(s) that they had held while in primary and secondary schools. The leadership positions included in the list were prefect, head prefect, librarian, head librarian, class monitor, and club/society/team leader.

**Procedure.** The emotional intelligence scale was translated and pilot tested together with other parts of the questionnaire. The pilot test was carried out with 39 non-leader first year students in a social science programme. Based on this test, three items that contained the phrase “non-verbal messages” were reworded for clarity (items 5, 15, and 25).

Data were collected via the self-administered method during the second half of the semester.

**RESULTS**

From the 240 questionnaires handed out, 161 (67.1%) were returned. There were more male (n=96, 59.6%) than female (n=65, 40.4%) participants. Their age ranged from 17 years to 36 years old with a mean of 21.5 (S.D.=2.05). Malay participants made up the bulk of the sample (n=13, 8.1%). Six other ethnicities and other non-specified ethnics formed the rest of the sample. In terms of year of study, there are 109 (67.7%) year two students, 26 (16.1%) year one, 16 (9.9%) year three and 9 (5.6%) year four students. A large majority of the participants were not married (n=154, 95.7%). There were only four (2.5%) married and two (1.2%) divorced respondents.

The scale’s internal consistency based on 147 responses was satisfactory, ā=0.85. This level of reliability is comparable to that reported by Schutte et al. (1998).
EI Among Leaders and Non-Leaders. Among 147 participants who had a complete set of responses for the EI scale, the scores ranged from 83 to 157 with a mean of 119.55 and standard deviation of 12.00. The EI scores for male students were slightly higher than for female students. However, the difference was not significant as shown by independent samples t-test results. A more detailed analysis of the mean and standard deviation of the EI scores are presented in Table 1.

Table 1: Mean (and Standard Deviation) of EI Score For Leaders and Non-Leaders By Sex

<table>
<thead>
<tr>
<th>Group</th>
<th>Males</th>
<th></th>
<th>Females</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean</td>
<td>S.D.</td>
<td>N</td>
</tr>
<tr>
<td>Leaders</td>
<td>36</td>
<td>118.61</td>
<td>11.48</td>
<td>28</td>
</tr>
<tr>
<td>Non-Leaders</td>
<td>49</td>
<td>121.14</td>
<td>10.70</td>
<td>34</td>
</tr>
</tbody>
</table>

As can be seen in Table 1, female non-leaders reported the lowest level of EI score and male non-leaders reported the highest score. In male students, the leaders scored lower than non-leaders. However, the reverse was true for female students. Even though there seemed to be an interaction effect of sex and leadership status, no significant differences were found among leaders-non leaders by sex and among the sexes by leadership status.

EI and CGPA. A total of 140 participants reported their CGPA. The values ranged from 1.20 to 4.00 with a mean of 2.79 and standard deviation of 0.35. Female students reported a minimally higher CGPA (2.85, S.D.=0.35) than male students (2.75, S.D.=0.34). The difference was not significant. Table 2 presents the reported CGPA by sex among leaders and non-leaders.

Table 2: CGPA For Leader and Non-Leaders By Sex

<table>
<thead>
<tr>
<th>Group</th>
<th>Males</th>
<th></th>
<th>Females</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean</td>
<td>S.D.</td>
<td>N</td>
</tr>
<tr>
<td>Leaders</td>
<td>32</td>
<td>2.71</td>
<td>.43</td>
<td>24</td>
</tr>
<tr>
<td>Non-Leaders</td>
<td>52</td>
<td>2.77</td>
<td>.27</td>
<td>32</td>
</tr>
</tbody>
</table>

Table 2 shows that non-leaders reported higher CGPA than leaders among male students. This pattern was also observed with EI score. However, with female student leaders and non-leaders, their CGPAs were identical up to the third decimal point. Since no difference among leaders and non-leaders was found for their CGPA, correlation analysis was collapsed to include all participants. In 128 students, a positive relationship existed between EI score and CGPA, r(127) = .218, p = 0.014. This indicated that students reporting higher CGPA tended to also report higher EI score.
EI, Current Leadership, and Previous Leadership. The next analysis concerned the third hypothesis regarding the relationship between current leadership status and previous leadership positions. On average, leaders reported a higher number of previous leadership positions (3.01, S.D. = 1.895) compared to non-leaders (2.753, S.D. = 2.171). Table 3 presents the distributions of leadership position among leaders and non-leaders. As can be observed, leaders were not proportionately larger in number for most leadership positions. Only for the position of class monitor and club/society/team leader was the number of current leaders noticeably (proportionately) larger than the non-leaders. An independent samples t-test showed no difference in the number of previous leadership positions among current leaders and non-leaders. Additionally, Chi-Square test revealed no dependence of current leadership position to previous positions except for one case. Being university student leaders or non-leader seemed to depend on whether the students were a secondary school class monitor or not, $\chi^2 = 6.006, p=.014$. In other words, students who were secondary school class monitors were more likely to become university student leaders.

Table 3: The Number and Percentages of Current Leaders ($n=71$) and Non-Leaders ($n=89$) in previous school leadership positions

<table>
<thead>
<tr>
<th>Leadership position</th>
<th>Leaders</th>
<th>Non-Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$n$</td>
<td>%</td>
</tr>
<tr>
<td>Prefect Primary School</td>
<td>12</td>
<td>16.7</td>
</tr>
<tr>
<td></td>
<td>29</td>
<td>40.3</td>
</tr>
<tr>
<td>Head Prefect Primary School</td>
<td>8</td>
<td>11.1</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>11.1</td>
</tr>
<tr>
<td>Librarian Primary School</td>
<td>16</td>
<td>22.2</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>18.1</td>
</tr>
<tr>
<td>Head Librarian Primary School</td>
<td>6</td>
<td>8.3</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>6.9</td>
</tr>
<tr>
<td>Class monitor Primary School</td>
<td>29</td>
<td>40.3</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>41.7</td>
</tr>
<tr>
<td>Club / Society / Team Primary School</td>
<td>22</td>
<td>30.6</td>
</tr>
<tr>
<td></td>
<td>39</td>
<td>54.2</td>
</tr>
</tbody>
</table>
To examine the effect of EI on previous leadership positions held, a correlation analysis was carried out. A significant positive relationship was observed between EI score and reported previous leadership positions, $r(146) = 0.236, p = .004$. The higher the number of previous leadership positions held, the higher was the students' self-reported EI score.

**DISCUSSION**

This study showed that there are niches to be investigated for research on emotional intelligence and leadership in Malaysia. Being exploratory in nature, this study attempted to use the established self-report EI scale (Schutte et al., 1998) for use in Malaysia. With improvements to the adapted scale, study design, and sample selection, there is indeed a potential for significant contributions to the literature on EI and leadership.

With this study's sample, the scale's reliability is comparable to that reported by Schutte et al. (1998). It is also higher than that reported by Liau, Liau, Teoh, and Liau (2003) in their study of secondary school students in Malaysia ($\alpha = 0.76$). Gender differences were not observed in this study as was found by Saklofske et al. (2003) and Charbonneau and Nicol (2002).

The total EI scores of 120 ($S.D. = 11.04$) for males and 119 ($S.D. = 13.26$) for females were about the same as reported in another study conducted in university students (Saklofske et al., 2003 [121 for males and 124 for females]). However, the score were lower compared to therapists ($M= 135, S.D. = 20.25$) (Schutte et al., 1998), and retail store employees ($M=130, S.D. = 14.99$) (Schutte et al., 2002). These findings, taken together, seem to suggest that EI score can be improved as one gets older and employed.

The overall relationship between EI and CGPA in this study was slightly lower than that reported by Schutte et al. (1998). This weaker relationship could be attributed to the fact that Schutte et al. used the official CGPA with a gap of almost one academic year between the measurement of EI and CGPA. Maturation process may have improved the students’ EI since it was measured and hence strengthen the relationship between EI and academic achievement. Put another way, with a delayed measurement, EI could have exerted more influence on academic achievement as the students matured.

The expected EI differences among leaders and non-leaders did not materialise. Therefore, no further analysis was done to examine the differences of the strength of EI and CGPA relationship between leaders and non-leaders.

This study has only demonstrated partial support for the relationship between EI and leadership. Self-report EI score did not differentiate student leaders from non-leaders. This finding was in contrast with other exploratory studies such as Higgs and Aitkens (2003) and Barling et al. (2000). Nonetheless, it should be noted that the two studies used self-report measures for both EI and leadership variables. The present study was different because it related a soft measure (EI) with a hard measure (actual leadership position).
Further study should investigate whether the difference of results according to the types of variables used was indeed real. Furthermore, a follow up study could be instrumental in determining the effect of past leadership experience to one's EI. A longitudinal study should be carried out to see the development of EI score among leaders and non-leaders. Would there be a divergence of their scores? This prediction is posed here in the light of the positive relationship found between EI score and total leadership positions held previously.

Several limitations exist in this study, mainly due to practical reasons. Future study should try to obtain students' official CGPA instead of relying on them to give the responses. Slightly more than 13 percent of students did not report their CGPA. Moreover, the authenticity of the numbers given cannot be verified. Another limitation concerned the scale itself. More work should be done to adapt, as opposed to merely suit the scale for local use. This improvement should increase the internal consistency coefficient and reduce the error of measurements.

Another improvement that can be made is in matching the leaders and non-leaders. With a thorough and careful planning, matching by sex, programme of study, year of study, age, and other relevant variables can be achieved. A more satisfactory matching of leaders and non-leaders would eliminate confounding variables and provide a more meaningful comparison. A fourth limitation was the use of self-report measure. A more comprehensive study should use ability-based (or hard) measure of emotional intelligence. This approach is more desirable considering the lack of relationship found in correlating a soft variable to a hard variable.

The use of self-report measure in EI research has its share of opponents (see Daus & Ashkanasy, 2003). The criticisms levelled at self-report EI measures did not stop researches from using it in a wide range of investigation topics such as in examining early adolescent alcohol and tobacco use (Trinidad & Johnson, 2002), occupational stress (Nikolaou & Tsousia 2002; Bar-On et al., 2000), work attitudes, behaviour and outcomes (Carmeli, 2003), and life satisfaction (Palmer, Donaldson & Stough, 2002). Petrides and Furnham (2002) emphasised that trait EI is valuable because it can provide "conceptual and explanatory framework" (p. 54) for psychological research.

Daus and Ashkanasy (2003) did not deny the utility of self-report measures of EI. The models that form the base for self-report measures can be used in organisational development or intervention programmes. The present authors would like to extend this suggestion to include universities and colleges. Although the present study did not investigate the factors or domains of trait EI, university administrators can use the scale for diagnostic and training purposes. It seems that there are rooms for improvement among student leaders and non-leaders to be more effective as students and also as future leaders.

In designing an EI development or training programme, university administrators should learn the lessons from similar attempts at schools. Zeidner, Roberts and Matthew
(2002) concluded that the success of programmes to enhance EI at school level is still undetermined. Therefore, they have listed several guidelines for developing, implementing, and evaluating EI intervention programmes as such:

1. Base EI intervention programmes on a solid conceptual framework.
2. Carefully specify programme goals and behavioural outcomes.
3. Identify the educational, socio-cultural, and developmental context for programme implementation.
4. Fully integrate EI programme into the school educational and instructional curriculum.
5. Make provisions for practice and for generalising the domain of emotional skills across different classes of behavioural performance.
6. Ensure professional development of programme personnel.
7. Use robust experimental, psychometrically sound designs for assessing programme effectiveness.

These guidelines could be useful for university administrators if they wish to implement an EI intervention programme successfully. The collaboration among administrators, lecturers, researchers and students could help to design an effective programme as each participant has an important contribution to one or several of the guidelines. For example, researchers, can offer their input on the available conceptual frameworks for EI development. Lecturers’ voice should be heard in incorporating EI into their classes. Empirical evidence should be instructive in designing EI into the curriculum. Ashkanasy and Dasborough (2003) presented an attempt at incorporating EI into the curriculum. Their preliminary study showed that emotional intelligence predicted individual performance while interest and knowledge of emotional intelligence predicted team performance.

The present study showed that student leaders and non-leaders’ EI cannot be differentiated by the measure used. Whatever the reason - the measure itself, the students-themselves, or the stage of EI development in which the students were - one thing was clear: more research are required to understand the nature of EI and how it develops. Robust and sound research can help university administrators design appropriate intervention programmes. A huge opportunity exists for local researchers to add to the scant literature on emotional literature and leadership. Indeed, as Humphrey (2002) states “Research into the relationship between emotions and leadership is only just beginning, so there should be grounds for future research for many years to come” (p. 502).
An Exploratory Study on Emotional Intelligence

REFERENCES


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