Factors Affecting High School Students' Emotional Quotient in Chiang Mai Province

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ABSTRACT

The Emotional Quotient (EQ) consists of 9 aspects: self control, sympathy, responsibility, self motivation, decision making and problem solving, interrelationship, self-esteem, satisfactory life and optimism. This study of factors affecting high school students' emotional quotient in Chiang Mai was statistically analyzed by using descriptive statistics, category principal component analysis, non parametric statistics, canonical correlation analysis and regression analysis.

The findings showed that students' self control, sympathy, responsibility, self motivation, decision making and problem solving, and satisfactory life were at the moderate to high level. For students' interrelationship, self-esteem and optimism, most results appeared at the moderate to low level.

To determine the factors affecting the high school students' EQ, the regression model was generated to predict EQ in each aspect from those factors which were personal, family and school factors. At the level of significance .05 showed that the relation between EQ and each factor were linear canonical correlation; the canonical correlation coefficients between EQ and those factors were 0.357, 0.491 and 0.393, respectively. According to those three factors, the most influential variables on EQ were sex, family interrelationship and students, teacher and friends relationship, respectively.

Key words: emotional quotient, EQ

INTRODUCTION

In the past, some people believed that IQ (Intelligent Quotient) was the important indicator of the success and happiness in life. Nowadays, this is not completely true. Recently, many researchers emphasize much more in emotional quotient and find that not only IQ can be used to predict the learning result, but also characteristic, economic status and family growing pattern. They generally emphasizes that IQ has influenced the success only 20%. Another 80% was from the other factors including EQ (Emotional Quotient), which emphasizes the way to understand and take care of others and oneself.

This research aimed to study which factors probably influenced emotional quotient such as family growing pattern, the way of teacher teaching, intelligent quotient and environment surrounding the high school students in Chiang Mai. This result can be used to develop person efficiency. Another aim was to study the level of emotional quotient in different ways and the factors influencing self control, knowing others and oneself 's feeling, emotional expression and enthusiasm of high school students in Chiang Mai.

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METHODS

The population of this study was 25,632 high school students of public and private schools in Chiang Mai in 2001. Six hundred and forty students were sampled by using multi-stage sampling method.

The tool of this study was a questionnaire consisting of 2 parts**. Part I** involved general information, and **Part II** consisted of family factors, school factors (teachers and friends) and the emotional quotient test. This test was developed by the Department of Mental Health, Ministry of Public Health in 2000.

Part I consisted of 28 positive questions. The score was

1 : if it was not true

2 : if it might be true

3 : if it was almost true

4 : if it was absolutely true.

Part II consisted of 24 negative questions. The score was

1 : if it was absolutely true

2 : if it almost true

3 : if it might be true

4 : if it was not true

The over all scores were summarized and categorized into emotional quotient, as:

M : Normal EQ, the score equaled the mean ± standard deviation $\overline{X}$(± SD).

L : Low EQ, the score was lower than M.

H : High EQ, the score was higher than M.

RESULTS AND DICUSSION

Overall, most students had a normal (M) and high EQ (H) 48% and 47.3%, respectively. The rest 4.7% had low EQ (L). In the sympathy, responsibility, motivation, decision making and problem solving and satisfactory life, most students had a normal EQ. The high EQ group was larger then the low one. On the other hand, in the interrelationship, self esteem and optimism aspects, most students had normal EQ, but the lower EQ group was larger than the higher one.

1. Emotional quotient aspects analysis.

By using Category Principal Component Analysis: CATPCA (Meulman and Willem, 1999), we could define relationship of 9 aspects of EQ into 3 groups (Figure 1)

From Figure 1, the following can be concluded:

Group 1 consisted of self control (EQ1), sympathy (EQ2) and responsibility (EQ3). These had the same direction relationship or positive correlation. For instance, if EQ1 and EQ2 were high, the EQ3 would be high too.

Group 2 consisted of motivation (EQ4), decision making and problem solving (EQ5), satisfactory life (EQ8), and optimism (EQ9). These had the same direction relationship.

Group 3 consisted of interrelationship (EQ6) and self esteem (EQ7) which had the same deirection relationship.

2. Factors and EQ relationship

To find the relationship between factors and EQ, it was decided to evaluate in 2 ways; one was the relationship between 2 variables and the other was the relationship between 2 sets of variables.

2.1 The relationship between 2 variables (Tanvatanagul, 2003). By using Cramer's V, Eta and Spearman's rank correlation cofficient, it was found that:

Self control aspect. Variables having relationship with this aspect were **personal factors** (high school grade and average grade (GPA)), **family factors** (the people living with, highest education of mother and family relationship score) and **school factors** (size of school and teacher and friends relationship scores).

Sympathy aspect. Variables having relationship with this aspect were **personal factors** (high school grade), **family factors** (occupation of mother and family relationship score) and **school factors** (district, size of school, studying program, number of students in class and teacher and friends relationship score).

Responsibility aspect. Variables having relationship with it were **personal factors** (sex, high

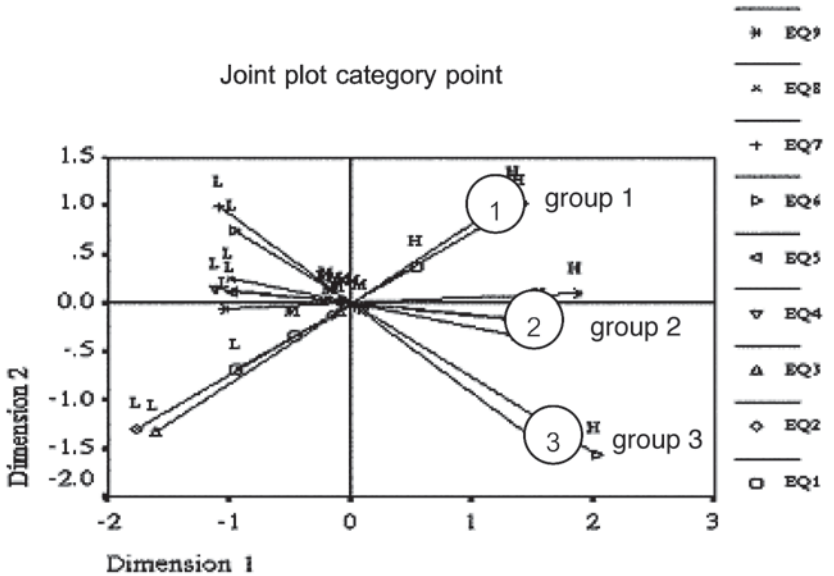

Figure 1 Joint plot category point of EQ.

school qrade, age and average grade (GPA)), **family factors** (family relationship score) and **school factors** (teacher and friends relationship score).

Motivation aspect. Variables having relationship with it were **personal factors** (age and high school grade), **family factors** (people living with, the highest education of father, total family income and family relationship score) and **school factors** (school size and teacher and friends relationship score).

Decision making and problem solving aspect. Variables having relationship with it were **personal factors** (sex, high school grade and age), **family factors** (the highest education of father and mother and family relationship score) and **school factors** (size of school and teacher and friends relationship score).

Interrelationship aspect. Variables having relationship with it were **personal factors** (sex, age, school grade and GPA), **family factors** (the highest education of father and family relationship score) and **school factors** (district, size of school and teacher and friends relationship score).

Self esteem aspect. Variables having relationship with it were **personal factors** (sex, school grade and GPA), **family factors** (The occupation of mother, people living with and family relationship score, and **school factors** (district, number of student in class and teacher and friends relationship score)

Satisfactory life aspect. Variables having relationship with it were **personal factors** (sex, age, school grade and GPA), **family factors** (total family income and family relationship score) and **school factors** (size of school and teacher and friends relationship score)

2.2 The relationship between 2 groups of variables. (The data of each variable were changed to quantitative data by using Category Principal Component Analysis). The name of the variables used in Figure 2 will be written in parenthesis for easy identification.

The emotional quotient score consisted of self esteem score (SUM1), sumpathy score (SUM2), responsibility score (SUM3), motivation score (SUM4), decision making and problem solving score (SUM5), interrelationship score (SUM6), self esteem (SUM7), life satisfactory score (SUM8) and optimism score (SUM9).

The personal factors consisted of sex, age,

school grade (class) and average grade (GPA)

The family factors consisted of the occupation of father (OCCF), the occupation of mother (OCCM), the people living with (LIVE), the highest education of father (EDUF), the highest education of mother (EDUM), family characteristic (DES), the chronological number of child (RECHILD), total family income (REINC) and family relationship score (SUMPAR)

The school factors consisted of district (AMPHUR), department being under (UNDER), studying program (PART), size of school (SIZE), number of students in the class (NSTUD) and teacher and friends relationship score (SUMSCH).

At 5% significance, the linear canonical correlation between EQ and personal factors, family factors and school factors were 0.357, 0.491 and 0.393, respectively.

The 2 most important variables of EQ affecting **personal factors** were responsibility EQ score and self esteem EQ score, respectively. The most component loading of variables of personal factors affecting EQ was sex.

The most component loading of variables of EQ affecting **family factors** was satisfactory life EQ score. The most component loading of family factors affecting EQ was the family relationship score.

The most component loading of variables of EQ affecting **school factors** was sympathy EQ score. And the most component loading of school factors affecting EQ was teacher and friends relationship score.

3. Analysis of the factors affecting to the EQ score

To determine which factors affecting EQ score, we used Nonlinear Canonical Correlation Analysis: OVERALS (Meulman and Willem, 1999) and regression analysis to create the EQ score predicting equation. The results were as follows.

3.1 Nonlinear Canonical Correlation Analysis It showed the set of interrelation between variables in Figure 2.

From Figure 2, all variables of EQ were self control score (SUM1), sympathy score (SUM2), responsibility score (SUM3), motivation score (SUM4), decision making and problem solving score (SUM5), interrelationship score (SUM6), self esteem score (SUM7), satisfactory life score (SUM8), and optimism score (SUM9). All these variables had a relationship with family factors (SUMPAR), high school grade (CLASS), teacher and friends relationship score (SUMSCH) and personal factors. These 4 factors had nonlinear canonical correlation about 0.364 and 0.329 in dimension 1 and dimension 2, respectively.

3.2 Prediction of emotional quotient score From regression analysis by stepwise method and Weight Least Square: WLS (Tanvatanagul, 2003). It was found that the effected variables score on the emotional quotient score had various aspects. At the .05 level of significance, it can be used to predict each EQ from regression equation as follows:

Emotional quotient score in self control (SÛM1); $R^2 = 1.000$

SÛM1 = 2.144 + 0.326 (sympathy score) + 0.256 (decision making and problem solving score) + 0.158 (satisfactory life score) + 0.122 (optimism score) + 0.537 (sex) + 0.560 (mother's occupation : official) + 0.701 (staying with mother)

Emotional quotient score in sympathy (SÛM2); $R^2 = 0.928$

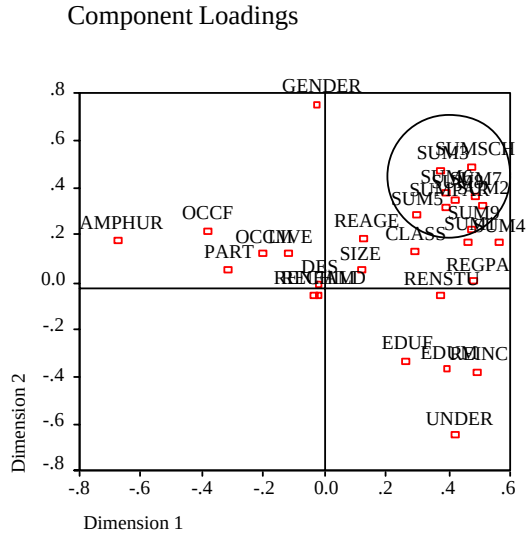

Figure 2 Component loading of variables.

SÛM2 = -1.906 + 0.246 (self control score) + 0.318 (responsibility score) + 0.589 (optimism score) - 1.667 (district)

Emotional quotient score in responsibility (SÛM3); R^2 = 0.995

SÛM3 = 7.239 + 0.457 (sympathy score) + 0.135 (decision making and problem solving score) + 0.121 (satisfactory life score) + 0.339 (mother's occupation: worker)

Emotional quotient score in self motivation (SÛM4); R^2 = 0.987

SÛM4 = 2.157 + 0.137 (sympathy score) + 0.195 (decision making and problem solving score) + 0.468 (self esteem score) + 0.203 (satisfactory life score) + 0.517 (sex) + 0.351(father's education: primary school) + 0.000012 (total income of family)

Emotional quotient score in decision making and problem solving (SÛM5); R^2 = 0.986

SÛM5 = 1.237 + 0.220 (self control score) + 0.158 (responsibility score) + 0.266 (self motivation score) + 0.207 (optimism score)

Emotional quotient score in students' interrelationship (SÛM6) ; R^2 = 0.986

SÛM6 = 7.674 + 0.376 (self esteem score) + 0.280 (satisfactory life score) - 0.560(sex) - 0.591 (father's occupation: worker)

Emotional quotient score in self esteem (SÛM7); R^2 = 0.979

SÛM7 = 1.288 + 0.303 (self motivation score) + 0.159 (students' interrelationship score) + 0.112 (optimism score) - 0.260 (sex)

Emotional quotient score in satisfactory life (SÛM8); R^2 = 0.990

SÛM8 = -0.300 + 0.131 (responsibility score) + 0.212 (students' interrelationship score) + 0.171 (self motivation score) + 0.385 (optimism score) + 0.186 (family relationship score)

Emotional quotient score in optimism (SÛM9); R^2 = 1.000

SÛM9 = 1.564 + 0.105 (self control score) + 0.178 (self motivation score) + 0.192 (decision making and problem solving score) + 0.125 (self esteem score) + 0.378 (satisfactory life score) - 0.458 (father's occupation: worker)

CONCLUSION

In this study, we found that students' self control, sympathy, responsibility, self motivation, decision making and problem solving, and satisfactory life were at the moderate to high level. For students' interrelationship, self-esteem and optimism, most results appeared at the moderate to low level.

The findings showed that all 9 aspects of EQ had the interrelationship in the same direction. By using the .05 level of significance, EQ had relationship with personal, family and school factors. The most component loading of variables of EQ on personal, family and school factors were responsibility, satisfactory life and sympathy, respectively. By using the standardized regression coefficient (Beta) from regression analysis, the most affecting factor to **self control and responsibility aspects** of EQ was sympathy score, **the sympathy and satisfactory life aspects** was optimism score, **the motivation aspect** was self esteem score, **the decision making and problem solving aspects** was self control score, **the interrelation and optimism aspects** was life satisfactory score and **the self esteem aspect** was motivation score.

This study showed the level of EQ of high school students in Chiang Mai. Parents played an important role in developing the EQ of their child, so we must also develop their EQ too.

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