



## SOCIAL INTELLIGENCE OF SECONDARY SCHOOL STUDENTS IN VIETNAM

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**Abstract:** The paper surveyed the social intelligence of 1110 secondary school students in Vietnam according to five dimensions: *Situational Awareness; Presence; Authenticity; Clarity and Empathy* defined by K. Albrecht. The results showed that the social intelligence according to surveyed competencies *reached an above-average level and had a moderate and close correlation*, in which the impact of empathy kept a more important role. There was no statistically significant difference in the level of students' social intelligence by sex, locality, birth order and study/practice performance. In addition, the survey results identified models that predict the impacts of factors of communication style, communication trends and temperament of students as well as communication and learning from others on their social intelligence.

**Keywords:** social intelligence, social intelligence structure, communication styles, communication trends and temperaments in communication; secondary school students.

### I. INTRODUCTION

In the early twentieth century, social intelligence was understood *as the ability to act wisely in social communication; understanding others, creating good relationships between people* (Thorndike, 1920); as the ability to live in harmony through the knowledge, social skills and interaction with people (Vernon, 1933). Afterwards, social intelligence was better understood as the ability to understand and adapt to the behaviors of others (Guiford, 1967); the ability to address specific social situations (Ford & Tisak, 1983); including the ability to penetrate into others, to get a clear awareness and responding to others' moods, motivation, desires and temperaments (Gardner (1983); the ability to understand emotions, thoughts and behaviours of theirs and others', of circumstances and take reasonable actions based on such understanding (Marlowe, 1986; Buzan 2002). Currently, with the intention of building up a new science of intelligence, Goleman thought that the social intelligence consists of two components: *Social awareness and social capacity*, in the aspects: Primal Empathy and Empathic Accuracy; Attunement; Social Cognition; empathy; self-expression; Affecting and Caring for others (Goleman (2006).

In the textbook "*Social intelligence: the new science of success*", Albrecht identified five dimensions of social intelligence, which he called social interaction skills: (i) *Situational Awareness*; (ii) *Presence*; (iii) *Authenticity*; (iv) *Clarity* and (v) *Empathy* (Albrecht (2006).

Along with academic studies, many practical studies have been conducted. Qingwen Dong, J. Koper et al. (2008), after surveying self-esteem and sensitivity in multicultural communication of 419 students in the Western US University, showed that there was a positive correlation between sensitivity and confidence and social intelligence. Pintoa, Fariab and Taveirac (2007), after studying 1171 students in grades 8, 10 and 11 in Southern Portugal, presented that those students evaluated their social intelligence at a fairly low level. Manisha Goel and Preeti Aggrwal (2012) compared the eight expressive aspects of social intelligence between single children and children with siblings in India. As a result, children with siblings had slightly higher social intelligence than those without siblings. A study by Nagra (2014) in 200 secondary school students showed that there was no significant difference in social intelligence and adaptability by students' sex. Recently, Sangeeta K. Rathod (2017) studied 50 teenage boys and 50 teenage girls, randomly selected in Rajkot city and the findings presented that there was no significant difference between teenage boys and girls in terms of social intelligence and personality. In the study by Meera Rani, Sumit, Sheela Sangwan (2018), there was insignificant difference in patience, cooperation, confidence, sensitivity and humor among secondary high school students in urban and rural areas. Obilor Ezezi Isaac et al (2019) explored the relationship between social intelligence and academic achievement of 800 students, including 240 senior secondary school students and concluded that there was an essential relationship between empathy and academic performance of the students.

In Vietnam, Nguyen Cong Khanh's (2017) studied on social intelligence of 1379 students from two

pedagogical universities in the North of Vietnam. The results showed that about 20-25% of them had a low social intelligence. They had strengths in terms of social awareness and problem-solving ability; however, their adaptability to integrate into social environment and their ability to establish, maintain social relations were at a lower level. A study by Nguyen Thi Hong (2018) in 511 preschool pedagogical students also showed similar results as Nguyen Cong Khanh's investigation. This study created an addition to the picture of social intelligence of secondary schoolstudents in Vietnam.

## II. STUDY METHOD

### Scale design

The scale was designed in the form of self-assessmentof social intelligence and related factors: Communication style, communication trend, temperament and communication, learning of students.

The structure of the scale consists of 122 items according to the following topics:

- The dimensions of social intelligence: 50 items, including 10 items per dimension
- *Communication style*: 25 items, corresponding to 5 typical style: Autocratic, democratic and free styles in communication; style toward people and style toward work in communication; Each style has 5 items.
- Communication trend*:20 items, corresponding to 4 trends: Towards self-interest and toward others; introvert and extrovert tendencies. Each type of trend has5 items.
- *Temperament*: 20 items, corresponding to 4 common types of temperaments: choleric, sanguine, phlegmatic and melancholic temperaments.
- The impact of communication and learning from others: 7 items

Likert scale was used for the items and the whole scale, including 5 levels: Level 1, the lowest level (corresponding to 1 point), Level 2 (2 points); Level 3 (3 points); Level 4 (4 points) and Level 5, the highest level (5 points).

### Verification of the scale's reliability

The results showed that the reliability index of topics as well as the whole scale was higher than the permitted standards.

Reliability verification

No	Contents	Crobach's coefficient	Alpha
	Social intelligence	.899	
Dimensions of social intelligence	Awareness about others and communicationcontext	.901	
	Self-expression	.901	
	Reliability of personality	.903	
	Affecting ability	.900	
	Empathyin communication	.900	
	Communication style	.906	
	Communication trend	.907	
	Temperamentsexpressed in communication	.909	
	Communication andlearning from others	.906	
	<b>The whole scale</b>	<b>.910</b>	

### FACTOR ANALYSIS

#### KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.935
Approx. Chi-Square		47880.210
Bartlett's Test of Sphericity	df	11628
	Sig.	.000

KMO coefficient= 0.935 > 0.5: The factor analysis was in line with research data.

Bartlett's test result was 23814,249 with significance level sig = 0.000 < 0.05, showing that the data used for factor analysis was completely suitable.

#### Sample size and sampling

The total number of students surveyed was 1128. After excluding the students (questionnaires) whose information was inadequate as requested, 1110 students were studied, at the age of 11-12 to 15, selected from grade 6 to 9 at 10 secondary schoolsin urban areas (5 schools) and rural

areas (5 schools) in 5 localities across the country (2 schools in each province/city): Hanoi; Hai Duong; Thanh Hoa, Ha Tinh and Ho Chi Minh City.

### **General characteristics of the study sample**

Demographic factors of 1110 students were in consistence with Vietnamese reality. In terms of sex, Male: 526 students, 47.39%; Female: 584 students, 52.61%. Locality: Urban area: 520 students, 46.85%; Rural area: 590 students, 53.15%. Grade 6: 247 students, 22.25%; Grade 7: 290 students, 26.13%; Grade 8: 278 students, 25.05% and Grade 9: 294 students, 26.57%. In terms of birth order in family: First child/ single child: 596 students, 53.96%; Second child/the youngest: 514 students, 46.31%. Participation in collective work (monitor, vice-monitor, team leader): 251 students, 22.61%, non-participation in collective work: 859 students, 77.39%. The study/practice performance in the previous school year: Excellent (According to the standards of Ministry of Education and Training): 713 students, 64.23%; Good: 307 students, 27.66%; Average and weak ability: 90 students, 8.11%. The ratio of study/practice performance was in line with Vietnam's recent educational practice.

### **Observed variables**

There are 5 dimensions of social intelligence defined by Albrecht (model S P A C E): *Situational Awareness*, referring to the awareness of others and communication context; *Presence*, referring to the ability to impressively express yourself with verbal and nonverbal forms; *Authenticity*, referring to the ability to create credibility about the frankness, sincerity, responsibility and confidence in communication; *Clarity*, referring to the ability to affect, present, explain and express ideas in a clear, bright, deep and effective manner; *Empathy*, referring to a feeling of sharing between two persons, a state of connection with others, building up a foundation for positive interaction and cooperation (Albrecht, 2006).

### **Relevant variables (dependent)**

Communication style, communication trend, temperament; communication and learning from others of the students

### **Independent variables**

Sociological factors, including sex, living areas; birth order in family; level of participation in collective work; grade; students' study/practice performance in previous school year.

### **Data analysis and statistical methods**

The survey data was determined by two parameters: (i) Mean, standard deviation and median point (on a 5-point scale); (ii) The percentage of level of social intelligence, communication style, communication trend, temperament and communication, learning was determined by the mean and standard deviation of each sample group. Results were processed with SPSS 20.0 software.

The difference in the level of social intelligence as well as level of expression of the factors were tested by independent T test and Anova test; The regression model used was linear regression.

## III. RESULTS

### **3.1. Description of the results of the survey about the student's social intelligence and related factors**

#### *3.1.1. Dimensions of social intelligence, communication style, communication trend, temperament, communication learning*

Table 1 described the levels of the dimensions of social intelligence; communication style and trend; temperament and communication, learning of surveyed students.

The mean of social intelligence of surveyed students was 3.38/5 points. Standard deviation was 0.48. Median: 3.37. As such, the social intelligence of students reached an above-average level while the median point was deviated to the right of the rating scale (5 levels).

In terms of each dimension: The highest level was the mean of the ability to create credibility for the frankness, sincerity, responsibility, trust, etc. in communication (*Authenticity*), specifically, Mean = 3.51 and Median = 3.56); next was *Empathy*, referring to the ability of empathy, harmony, feeling of sharing, state of connection with others to create positive interaction and cooperation in communication (Mean = 3.49 and Median = 3.44); The third was the mean of *Situational Awareness*, referring to the ability to get awareness of others, yourself and communication context (Mean = 3.47 and Median = 3.45); The fourth was the mean of *Clarity*, referring to the ability to affect, present, explain, express ideas in a clear, bright, deep and effective manner (Mean = 3.21 and Median = 3.25). The lowest was the mean of *Presence*, referring to the ability to impressively express yourself by verbal and nonverbal manifestations and other forms (Mean = 3.17 và Median = 3.11).

The democratic style was the most obvious in the communication of the students: (Mean = 3.54; Median = 3.60); next was the free style (Mean = 3.13; Median = 3.20). The mean of autocratic style was the

lowest (2.14 < 2.5 points/5). The mean of the style towards people in communication was higher than that of the style towards the work contents in communication (Mean = 3.35 and Mean = 3.22).

Three types of temperaments with high expression in communication included phlegmatic temperament (Mean = 3.34; Median = 3.40), sanguine temperament (Mean = 3.25; Median = 3.20) and melancholic temperament (Mean = 3.12; Median = 3.20). Choleric temperament has a low mean (Mean = 2.43; Median = 2.40).

The mean of the trend towards others in communication was fairly high (Mean = 3.41). Meanwhile, the mean of trend towards self-interest was much lower: Mean = 2.89; Median = 3.0; The mean of introversion was higher than that of extroversion (Mean = 3.08; Median = 3.00 compared to Mean = 2.36; Median = 2.40). The mean of communication, learning from others was fairly high (Mean = 3.29; Median = 3.29).

**Table 1** Description of the dimensions of social intelligence; communication style and communication trend; temperament and communication, learning of surveyed students

Factors		Mean	SD	min	Max	Median
Mean of social intelligence		3.38	0.48	1.62	4.74	3.37
Dimensions of social intelligence	<i>Situational Awareness</i>	3.47	0.60	1.45	5.00	3.45
	<i>Presence</i>	3.17	0.57	1.33	4.89	3.11
	<i>Authenticity</i>	3.57	0.54	1.56	5.00	3.56
	<i>Clarity</i>	3.21	0.54	1.25	5.00	3.25
	<i>Empathy</i>	3.49	0.59	1.44	5.00	3.44
Communication styles	Autocratic style	2.14	0.46	1.00	3.80	2.20
	Democratic style	3.54	0.67	1.20	5.00	3.60
	Free style	3.13	0.59	1.20	5.00	3.20
	Style towards work	3.22	0.57	1.40	5.00	3.20
	Style towards people	3.35	0.63	1.00	5.00	3.40
Temperaments	Choleric	2.43	0.45	1.00	4.40	2.40
	Sanguine	3.25	0.67	1.00	5.00	3.20
	Melancholic	3.12	0.80	1.00	5.00	3.20
	Phlegmatic	3.34	0.63	1.00	5.00	3.40
Communication trends	Extroversion	2.36	0.46	1.00	4.00	2.40
	Introversion	3.08	0.69	1.00	5.00	3.00
	Trend towards others' interests	3.41	0.64	1.20	5.00	3.40
	Trend towards self-interest	2.89	0.66	1.00	4.80	3.00
Communication, learning		3.29	0.61	1.43	5.00	3.29

### 3.1.2. Social intelligence of target groups by sex, living areas, level of participation in collective work, grade, study and practice performance

Table 2 described the level of social intelligence of target groups by sex, locality, and birth order in family; participation/non-participation in collective work; grade and study/practice performance.

The number of students with the lowest mean of social intelligence (level 1) was very low: 28, accounting for 2.52%. At level 2, the number of students was greater: 125 children, accounting for 11.26%. If levels 1 and 2 were combined into a group with a low mean of social intelligence, the percentage of students at this level would be 14.78%. The number of students with the mean of social intelligence at the average level was 778, accounting for 70.09%. The number of students with a relatively high level (Level 4) of social intelligence was 157, accounting for 14.14%; The number of students with a very high level (Level 5) of social intelligence was 22, accounting for 1.98%. If levels 4 and 5 were combined into a high level, the percentage of students at this level would be 16.12%.

In terms of sex, the percentages of boys and girls with the mean of social intelligence at levels 1 and 2 were 16.73% and 11.13%, respectively; At levels 4 and 5, the percentage of boys was 13.69% while that of girls was higher: 18.42%. The percentages of students in rural areas with the mean of social intelligence at levels 1, 2 and levels 4, 5 were 12.88% and 17.11%, respectively. The corresponding percentages for urban students were

14.80% and 15.00%. In terms of participation/non-participation in class work, the percentage of participating students at levels 1, 2 and levels 4, 5 were 11.95% and 24.01% respectively. Meanwhile, the corresponding percentages of non-participating students were 13.99% and 13.54%.

In terms of grade, the percentages of students in grades 6, with the mean of social intelligence at levels 1, 2 and levels 4, 5 were 17.82% and 14.17%, respectively. In grade 7, the corresponding percentages were 17.24% and 13.79%, respectively. In grade 8, the percentages were 11.51% and 17.99%, respectively. The percentages of 9th grade students with the mean of social intelligence at levels 1, 2 and levels 4, 5 were 8.84% and 18.37%, respectively. In terms of birth order, in the group of the students as the first or single children in the family, the percentages of students with the mean of social intelligence at levels 1, 2 and levels 4, 5 were 11.91% and 15.44%, respectively and in the group of the students as second children in the family, the percentages were 15.95% and 16.92%, respectively. 12.62% of students with the excellent study/practice result had a mean of social intelligence at levels 1 and 2 while the percentage at levels 4, 5 was 18.65%. 11.40% of students with the good study/practice result had a mean of social intelligence at levels 1 and 2 while 12.05% of these students with had a mean of social intelligence at levels 4 and 5. 31.12% of students with average /weak study/practice performance had a mean of social intelligence at levels 1 and 2 while 10.00% of them had a mean of social intelligence at levels 4 and 5.

**Table 2:** Description of social intelligence of target groups by sex, locality, level of participation in collective work, grade, study/practice performance

		Min-2SD		-2SD- (-1SD)		(-1SD- (1SD)		(1SD - (2SD)		2SD-Max		Total
		1.62-2.42		2.421 - 2.90		2.901 - 3.86		3.861 - 4.34		4.341 - 5		
		n	%	n	%	n	%	n	%	n	%	
Level of social intelligence		28	2.52%	125	11.26%	778	70.09%	157	14.14%	22	1.98%	1110
Sex	Male	19	3.61%	69	13.12%	366	69.58%	65	12.36%	7	1.33%	526
	Female	9	1.54%	56	9.59%	412	70.55%	92	15.75%	15	2.57%	584
Locality	Rural area	18	3.05%	58	9.83%	413	70.00%	90	15.25%	11	1.86%	590
	Urban area	10	1.92%	67	12.88%	365	70.19%	67	12.88%	11	2.12%	520
Participation in collective work	Yes	6	2.39%	24	9.56%	161	64.14%	53	21.12%	7	2.79%	251
	No	22	2.50%	101	11.49%	617	70.19%	104	11.83%	15	1.71%	859
Grade	6	12	4.86%	32	12.96%	168	68.02%	30	12.15%	5	2.02%	247
	7	11	3.79%	39	13.45%	200	68.97%	37	12.76%	3	1.03%	290
	8	3	1.08%	29	10.43%	196	70.50%	44	15.83%	6	2.16%	278
	9	1	0.34%	25	8.50%	214	72.79%	46	15.65%	8	2.72%	294
Birth order	First child	12	2.01%	59	9.90%	433	72.65%	79	13.26%	13	2.18%	596
	Second child/the youngest	16	3.11%	66	12.84%	345	67.12%	78	15.18%	9	1.75%	514
Study/practice performance	Excellent	18	2.52%	72	10.10%	490	68.72%	116	16.27%	17	2.38%	713
	Good	5	1.63%	30	9.77%	235	76.55%	33	10.75%	4	1.30%	307
	Average/weak	5	5.56%	23	25.56%	53	58.89%	8	8.89%	1	1.11%	90

### 3.2. Difference in the mean of students' social intelligence by sex, locality, grade, participation in collective work, birth order, and study/practice performance.

Table 3 described the results of verifying the difference in the mean of students' social intelligence by sex, locality, grade, participation in collective work, birth order, and study/practice performance.

The mean of social intelligence of boys was lower than that of girls (-0.14 points), however, this difference was statistically insignificant ( $p = 0.39$ ). The mean of social intelligence of rural students was slightly higher than that of urban students (0.026), however, this difference was statistically insignificant ( $p = 0.87$ ). The mean of social intelligence of the students that participated in collective work was higher than that of non-participating students (Mean = 0.099,  $p = 0.01$ ). In terms of grade, the mean of social intelligence of graders 7 was slightly lower than that of graders 6, however, this difference was statistically insignificant (Mean = -0.001,  $p = 0.99$ ); The mean of social intelligence of graders 8 and 9 was significantly higher than that of graders 6 (Mean = 0.09,  $p = 0.014$ ) and (Mean = 0.16,  $p = 0.001$ ). The mean of social intelligence of the students identified as the first or single children in the families was higher than that of second children, however, this difference was statistically insignificant (Mean = 0.03,  $p = 0.055$ ). In terms of study/practice performance, the mean of social intelligence in the group of students with the good study/practice result was significantly lower (with statistical significance) than that of the group with excellent study/practice result (with statistical insignificance) (Mean = -0.07;  $p = 0.080$ ) while the mean of social intelligence in the group of students with average/weak study/practice achievement was significantly lower than that of students with excellent study/practice performance (Mean = -0.26;  $p = 0.000$ ).

Table 3. Description of the results of testing differences in the mean of students' social intelligence by sex, locality, grade, participation in collective work, birth order, and study/practice performance.

NO	Factors		N	Mean	SD	Difference				
						Mean	SE	95%CI	P	
1	Sex*	Male	526	3.31	0.48	-0.14	0.03	-0.20	-0.09	0.39
		Female	584	3.45	0.46					
2	Locality*	Rural area	590	3.39	0.48	0.026	0.029	-0.03	0.08	0.87
		Urban area	520	3.37	0.47					
3	Participation in collective work*	Yes	251	3.46	0.50	0.099	0.03	0.03	0.16	0.01
		No	859	3.36	0.47					
4	Grade**	6	247	3.32	0.51	-	-	-	-	-
		7	290	3.32	0.48	-0.001	0.04	-0.108	0.107	0.99
		8	278	3.41	0.47	0.09	0.04	-0.01	0.20	0.14
		9	294	3.48	0.42	0.16*	0.04	0.05	0.26	0.001
5	Birth order*	First child	596	3.40	0.46	0.03	0.029	-0.026	0.086	0.055
		Second child/the youngest	514	3.37	0.49					
6	Study/practice performance**	Excellent	713	3.42	0.48	-	-	-	-	-
		Good	307	3.35	0.43	-0.07	0.03	-0.15	-0.006	0.080
		Average/Weak	90	3.16	0.57	-0.26*	0.06	-0.40	-0.13	0.000

\* Independent T test; \*\* Anova test

### 3.3. Correlation between dimensions (factors) in the students' social intelligence

Table 4 described the results of testing the correlation between the dimensions in students' social intelligence

The correlation between the mean of surveyed dimensions and between the dimensions and the mean of social intelligence in general was positive at moderate and close levels. The highest correlation coefficient was between the mean of Empathy and the mean of the whole social intelligence ( $R = 0.857$ ). The lowest coefficient was between the mean of Authenticity and Presence ( $R = 0.501$ ). According to the verification result, 6 of 15 correlations reached a relatively close correlation level ( $R > 0.7$ ) and 9 of 15 correlations reached a moderate correlation level. The mean of the surveyed dimensions and that of

social intelligence and between the mean of the Clarity and the Presence were closely correlated while the remaining correlations were at moderate level. The correlation between the mean of Empathy and that of other dimensions had a higher coefficient R than the correlation between other dimensions (except the correlation between the mean of *Clarity* and *Presence*).

Table 4 described the results of testing the correlation between the dimensions surveyed in the students' social intelligence.

	<i>Situational Awareness</i>	<i>Presence</i>	<i>Authenticity</i>	<i>Clarity</i>	<i>Empathy</i>
<i>Situational Awareness</i>	-				
<i>Presence</i>	.596**	-			
<i>Authenticity</i>	.558**	.501**	-		
<i>Clarity</i>	.632**	.701**	.594**	-	
<i>Empathy</i>	.667**	.560**	.672**	.677**	-
<b>SOCIAL INTELLIGENCE</b>	.834**	.796**	.789**	.856**	.857**

### 3.4. Correlation between social intelligence and factors of communication style, communication trend, temperament and communication, learning of students

Table 5 showed the correlation between the mean of social intelligence and that of the factors: communication style, communication trend, temperament and communication, learning.

There was a *closely* positive correlation with statistical significance between the mean of social intelligence and the mean of democratic style (R= 0.73; B= 0.52; p= 0.00); a *moderately* positive correlation with the style towards people (R= 0.676; B= 0.51; p= 0.00) and the style towards work (R= 0.537; B = 0.45; p= 0.00), free style (R= 0.45; B= 0.37; p= 0.00). The mean of social intelligence was inversely correlated with the mean of autocratic style, however, it was statistically insignificant (R= 0.032; B= -0.03; P= 0.29).

The mean of social intelligence had a close correlation with the mean of the trend towards the interests of others in communication (R= 0.736; B= 0.547; p= 0.00); was correlated but at a *weak level* with the mean of introversion (R= 0.387; B= 0.26; p= 0.00) and the trend towards self-interest (R= 0.306; B= 0.223; p= 0.00). The mean of social intelligence had a positive correlation with the mean of introversion, but at a *very weak level* (R= 0.166; B= 0.17; p= 0.00).

The mean of social intelligence of secondary school students had a *moderately* positive correlation with the mean of sanguine temperament (R= 0.532; B= 0.378; p= 0.00) and phlegmatic temperament (R= 0.503; B= 0.382; p= 0.00); a *weakly* positive correlation with melancholic temperament (R= 0.275; B= 0.163; p= 0.00) and a *very weakly* positive correlation with choleric temperament (R= 0.082; B= 0.086; p= 0.006).

The mean of social intelligence had a moderately positive correlation with the mean of communication, learning from others (R= 0.560; B= 0.378; p= 0.00).

**Table 5:** Correlation between the mean of social intelligence and factors of communication style, communication trends, temperament and communication, learning of the students

Factors	R	R <sup>2</sup>	B	SE of B	p
Autocratic style	0.032	0.001	-0.03	0.03	0.29
Democratic style	0.73	0.531	0.52	0.015	0.000
Free style	0.45	0.203	0.37	0.02	0.000
Style towards work	0.537	0.289	0.45	0.02	0.000
Style towards people	0.676	0.457	0.51	0.017	0.000
Extroversion	0.166	0.027	0.17	0.031	0.000
Introversion	0.387	0.150	0.26	0.019	0.000
Towards the others' interest	0.736	0.542	0.547	0.015	0.000
Towards the self-interest	0.306	0.094	0.223	0.021	0.000
Choleric temperament	0.082	0.007	0.086	0.031	0.006
Sanguine temperament	0.532	0.283	0.378	0.018	0.000
Melancholic temperament	0.275	0.076	0.163	0.017	0.000
Phlegmatic temperament	0.503	0.253	0.382	0.020	0.000
Communication, learning	0.560	0.313	0.439	0.020	0.000

### 3.5. Multiple regression correlation of factors related to social intelligence of the surveyed students

The results of the multiple regression models were presented in Table 6. Factors included in the model were grade, students' participation in collective work, study/practice performance; communication style; communication trend; Temperament in communication and learning, communication of students.

The model explained 80.2% of the variation of the mean of social intelligence in regression correlation with the factors.

Factors in a statistically significant regression correlation with the points of students' social intelligence: Democratic style 0.217 [95% CI 0.190 – 0.244]; free style 0.051 [95% CI 0.025 – 0.076]; style towards work 0.092 [95% CI 0.064 – 0.119]; style towards people 0.133 [95% CI 0.105 – 0.161]; introversion 0.031 [95% CI 0.008 – 0.054]; trend toward the interests of others 0.160 [95% CI 0.130 – 0.190]; trend toward self-interest 0.051 [95% CI 0.027 – 0.074]; sanguine temperament 0.064 [95% CI 0.068 – 0.102]; phlegmatic temperament 0.051 [95% CI 0.040 – 0.088] and communication, learning from others 0.094 [95% CI 0.067 – 0.120].

**Table 6:** Multiple linear regression model of factors related to students' social intelligence

NO	Factors	B	SE	95%CI of B		p	
				Lower Bound	Upper Bound		
1	Participation in collective work	-0.024	0.016	-0.054	0.007	0.128	
2	Academic performance	Excellent					
		Good	-0.006	0.011	-0.028	0.015	0.560
		Average/Weak	-0.008	0.012	-0.030	0.012	0.254
3	Autocratic style	-0.020	0.017	-0.053	0.014	0.245	
4	Democratic style	0.217	0.014	0.190	0.244	0.000	
5	Free style	0.051	0.013	0.025	0.076	0.000	
6	Style towards the work	0.092	0.014	0.064	0.119	0.000	
7	Style towards the people	0.133	0.014	0.105	0.161	0.000	
8	Extroversion	0.019	0.016	-0.012	0.050	0.224	
9	Introversion	0.031	0.012	0.008	0.054	0.009	
10	Towards the others' interests	0.160	0.015	0.130	0.190	0.000	
11	Towards the self-interest	0.051	0.012	0.027	0.074	0.000	
12	Choleric temperament	0.004	0.016	-0.047	0.013	0.269	
13	Sanguine temperament	0.064	0.012	0.068	0.102	0.000	
14	Melancholic temperament	0.027	0.010	-0.031	0.030	0.961	
15	Phlegmatic temperament	0.051	0.012	0.040	0.088	0.000	
16	Communication learning	0.094	0.013	0.067	0.120	0.000	
R=0.897; R <sup>2</sup> =0.805; R <sup>2</sup> <sub>adjust</sub> = 0.802; F = 254.644; P <sub>anova</sub> <0.001; B <sub>0</sub> = 0.430							

## IV. DISCUSSION

The results of surveying social intelligence through 5 dimensions according to SPAC E model by K. Albrecht, on a sample of 1110 students from grades 6 to 9 at 10 secondary schools in Vietnam showed that about 14.78% of students had social intelligence at a low level (levels 1 and 2) and about 16.12% of students reached at a high level in social intelligence (levels 4 and 5) on a 5-level scale. The mean of surveyed dimensions in social intelligence reached the high average level. In particular, the highest was *Authenticity*, referring to the ability to create credibility about the frankness, sincerity, responsibility, trust, etc. in communication; the lowest is *Presence*, referring to the ability to impressively express yourself by verbal, non-verbal manifestations and other forms. The dimensions had a moderate to close positive correlation with each other and a close correlation with social intelligence. Among dimensions in social intelligence, Empathy had a closer correlation with other dimensions and social intelligence in general than that of other dimensions. This result showed the strong (influence) impact of empathy on the dimensions of children's social intelligence.

The survey results showed that, despite a slight difference in the level of social intelligence between groups of students by sex, living areas (rural and urban areas), by birth order (single child or second child, with siblings) and by level of participation in collective work, however, the difference was statistically insignificant. In other words, the above variables had little impact on students' social



intelligence levels. In this aspect, the survey results were similar to those of ManishaGoel and PreetiAggrwal (2012) on social intelligence of single children in the family and those with siblings; similar to the findings of Nagra (2014) on social intelligence of children by sex in India and the findings of ObilorEsezi Isaac et al (2019) on the correlation between social intelligence and their academic performance.

There was a multiple regression correlation, establishing the models that predict positive impacts on social intelligence of secondary school students. Those include models of democratic style, free style, style towards people and style towards work in communication. The models of introversion, trend towards the others' interests and trends towards self-interests in communication. In addition, there were models of sanguine and phlegmatic temperaments in communication. Communication, learning from others in communication process was also a regressive impact on the enhancement of social intelligence of the secondary school students in the survey.

#### CONCLUSION

Social intelligence is essential for the survival of society (Thorndike, 1920); decisive factor of success in an individual's life (Goleman, 2006). Many researchers have identified the social intelligence structure of individuals, including the five-dimension structure of social interaction capacity defined by K.Albrecht: *Situational Awareness; Presence; Authenticity; Clarity and Empathy* (Albrecht (2006).

Survey results of 1110 secondary school students in Vietnam showed that the competence of the dimensions under Albrecht's model reached *the above-average level and had a moderate and close correlation*, in which the impact of empathy kept a more important role. There was little difference in social intelligence of students by sex, rural and urban areas; birth order in family and students' study/practice performance, however, such difference was unclear and statistically insignificant. Furthermore, the survey results identified models that predict the impacts of factors on communication style, communication trends and temperament of students as well as communication, learning from others on their social intelligence. The aforementioned predictive models are useful suggestions for parents, teachers and students in establishing positive social relationships in students' communication, through the enhancement of the dimensions of social intelligence for students.

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