

***A Study on the Communication Efficacy of Korean High School Students:  
Focusing on the Emotional Tone of Comments on Internet News***

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**Abstract**

This study examined the communicative efficacy of Korean high school students in the context of their use of news comments on the Internet. The study was based on the normative argument that the portal media's news service should provide the space for public discussion and debate on the important social issues. However, in reality, it seems that Korean portal media users' comments on news do not provide the chance for public discussion. This study aimed to analyze how Korean youth perceive the efficacy of Internet public space for communication and participation.

A sample of Korean high school students (N=253) were assigned to the experimental conditions where news comments on a particular issue were manipulated either logical or emotional debate context. Based on the empirical analysis on high school students' evaluation, we found that the characteristics of news comments may affect the perceptions' about online public space and the communicative efficacy on the Internet debate. The level of communicative efficacy was relatively lower for those exposed to emotional debate context. The result of this study suggested that maintaining Internet debate as logical and rationally sound would be an essential component for utilizing new media technology in the democratic process.

We believe that our research is related to this year's conference theme, since the study can provide a chance to look around how individuals evaluate and participate on online community discussion to cope with conflict situations and to make a collective resolution through public debate.

Keyword: Communication efficacy, Internet news, Comments, Korean high school students.

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## 1. Introduction

The utilization rate of internet by teens in 2013 was found to be 99.7%, thereby illustrating that almost all teenagers are using internet (Korea Information Security Agency, 2013). The teenagers were using the internet for the purposes in the order of leisure activity (97.2%), searching of data and information (93.7%) and communication (91.9%) showing that teenagers in Korea are using the internet actively for leisure and acquisition of information. In addition, according to the recent ‘Survey on the actual status of information culture in 2013 (Korea Information Society Agency, 2014)’, 61% of the internet users throughout the country are leading “productive digital life” of uploading opinions or putting comments on the opinions of others. In addition, teens are found to participate in the “search of information related to policies/political society” most frequently (35.6%) among all the types of on-line social participation, thereby illustrating their continued interest in on-line social participation activities.

In summary, it was confirmed that almost all teenagers are actively using internet for not only leisure activities but also as a means of communication or social participation. Use of internet and participation in political society by the teenagers is not a recent phenomenon. Researchers in Korea consider the candlelight vigils in 2008 in protest of the importing of American beef as the time from which the teenagers began to assertively participate in social issues. It was understood that the experience of indirect participation in social issues by freely uploading their opinion in the internet by the teenagers have drawn direct social participation by attending the candlelight vigils (Jang, 2008). It was the bidirectional communication through internet that mediated such indirect social participation of the teenagers. There is, therefore, a need to pay attention to the participations of the teens in the internet space through which they freely exchange opinions and become aware of the opinions of others, with particular attention on the comments uploaded. This is because the importance of the awareness and participation of the teenagers in socio-political issues have further expanded as the communication and acquisition of information on political and social issues by the teenagers centered-around the internet space have become more active.

Internet comment appears to impart definitive effects on the generation of public sentiments in the internet (Jeong & Kim, 2006; Na, Lee & Kim, 2009). In particular, those reading the same news are uploading comments and read the comments made on the news at the same time, enabling them to learn about the opinions of others simultaneously. As such, uploading of comments is functioning as an ‘online public sphere’ or a ‘space for internet discussions’, and can be viewed as an action of expressing the opinions of the teenagers on the political and social issues.

In spite of the advantage of easy access, there have not been active researches related to the participation of the teenagers in politics through internet. This Study, considered the ‘space for discussions through comments on internet news’ as an important space that functions as the foundation on which the teenagers may mature as democratic citizen in accordance with the need for research. Moreover, the Study examined the communication efficacy of comments and communication efficacy of discussion in order to find out how the teenagers view such space for discussions through comments on internet news. In doing so, rational comments and emotional comments were presented as experimental material in reflection of the actual internet

environment in order to determine whether there are any differences between the communication efficacy of the comments and the communication efficacy of discussions in accordance with the emotional tone of comments being uploaded. Lastly, volition of the teenagers for the willingness to speak out in accordance with the emotional tone of comments was examined.

## **2. Literature Review**

### **1) Use of the Internet by and Political Socialization of the Teenagers**

The process of political socialization during adolescence considered to play the most important role in consolidation of the political identity of an individual (Easton & Dennis, 2009). In particular, preceding researches related to use of the mass media support such importance. As the result of research conducted on the intention of the teenagers for participation in politics in accordance with the motivations for use of the mass media, there were differences in the intention for traditional or alternative socio-political participation in accordance with the motivations for use of the mass media. In particular, there was a discovery of the pattern of increase in the intention for traditional or alternative socio-political participation in the case of pursuing news information (Kim, 2012). In addition, it was found that the teenage-respondents tend to rely relatively more heavily on a diverse range of mass communication means rather than face to face conversation for communication associated with political and social issues. Moreover, the extent of the political socialization communication of the teenagers was found to be closely related to their political participation (Ha & Lee, 2012).

Results of the researches conducted on the teenagers of Korea and the USA displayed similar context. Min & Noh (2011), having recognized that the adolescence is an important period of one's life in which one's 'political identity' is established, sought to investigate the indirect and direct effect of internet communication on the political awareness (political values and civic awareness) and participation of the teenagers. In the case of Korea, use of the internet for information displayed affirmative effect on political socialization with particular effort of reinforcing the attitude of valuing the "freedom of expression". In both countries, the use of internet displayed direct effect on political participation.

Meanwhile, research on university student groups composed mainly of those in the age bracket of 19~24, categorized as the post adolescence (Choi, 2014). In particular, this research examined the differences in the willingness to speak out and the communication efficacy of discussions in accordance with the emotional tone of comments and the experience of having uploaded comments. As the result of the research, the directionality of increase in the intention to express opinion and communication efficacy of discussions in the group that read rational comment was confirmed. Such results of research illustrate that people recognizes the space for uploading of the comments as a space for discussions and discussions along with increase in the volition to participate in such space when the comments uploaded are rational and logical.

Accordingly, from the fact that use of the internet by the adolescence impart a wide range of impact on the political socialization communication and that such activities

naturally lead to participatory activities in political society during the adulthood (Plutzer, 2002), there is a need to pay attention to the participation activities of the teenagers through comments in the internet news media that can be accessed easily. In particular, there is a need to have discussions focused on the behavior of willingness to speak out through comments rather than simply reading comments from the perspective of political participation.

## **2) Internet Comments and Discussion Culture**

Although the definition of internet comment differs slightly between researchers, they have the common essential feature of the ‘opinions of readers put up in the bulletin board or attached to the article’ or ‘response action and opinions in the form of message in the cyber space’ (Jeong & Kim, 2006; Lee & Seong, 2007; Choi, Choi & Choi, 2008). Such characteristic arises from the advantage of the comments on the internet news articles that express one’s opinion with relatively short sentences unlike the internet bulletin boards that impart the burden of having to write relatively long composition (Yoon, 2000).

Korea is not the only country with interests on the willingness to speak out through comments. Researches that focused on the effects of comments on individuals were also conducted in overseas countries. Among the various elements of internet news, comment uploaded is imparting influence on the perception of the ambience of public sentiments and formation of opinions of individuals (Lee & Jang, 2010). It is also found that political discussions are carried out not only in the political cyber space but also within the groups under non-political themes (Wojcieszak & Mutz, 2009). Another research reported that stories with the largest number of comments have the tendency of emphasizing issues in the order of politics, economy and international issues (Boczkowski & Mitchelstein, 2012). In addition, it was also disclosed that 2 types are found in the comment discussion spaces. Although there are ‘discussion communities’ based on respectable discussions with exchanging of opinions from a diverse range of viewpoints among the comment discussion spaces, ‘homogeneous communities’ for which emotional expressions or homogeneous assertions account for majority of the comments are also observed (Ruiz, et al., 2011).

Accordingly, the preceding researches, while pointing out the limitations as the space for discussion due to cursing and malign languages used, left the possibility of the internet spaces functioning as a space for discussion (Kim & Kim, 2005). That is, they explain that the people evaluates the contents of the comments depending on the emotional tone of comments (quality) as rational comment and emotional comments, and that they affect the overall perception about the news (Kim & Seon, 2006; Lee & Jang, 2009). Researchers in Korea rearranged the space for comments, which display dual nature, on the basis of ‘format of message appeal’ of persuasive communication for the space for comments. According to such rearrangement, ‘rational comment’ can be defined as the “comments that presents objective data or grounds and seeks to have the validity and logic of the opinion verified”, while ‘emotional comment’ refers to the “comments that aimed at conveying and persuading the message by drawing out subjective sympathy rather than on the basis of the objectivity of the message itself” (Lee, Kim, Ryu & Kang, 2010, 119p).

There is a need to continuously conduct researches on the communication efficacy of

discussion along with the discussions on these natures of the comments. There has been reports that, if the communication efficacy of discussion is reinforced in the internet, internet discussion will become activated through elevation of the extent of participation in the opinions uploaded (Lee, Kim & Moon, 2005), which in turn will lead to enhancement of the quality as well as the quantity of internet discussion, thereby inducing affirmative implications that people would have on democracy (Lee & Kim, 2006). In particular, in the recent research on the communication efficacy of discussion and the willingness to speak out in the internet space for comments, communication efficacy of discussion was found to have affirmative effect on the willingness to speak out by using comments (Lee, Choi & Yang, 2014).

This Study, under such context, aimed to examine whether there are differences in the efficacy teenagers experience on the comments, communication efficacy of discussion and intention for the willingness to speak out through comments in accordance with the types of the rational and emotional comments that reflect the actual environment of uploading the comments. The following research questions were deduced by summarizing the above discussions:

Research Question 1: Is there difference in the communication efficacy of comments in accordance with the emotional tone of comments?

Research Question 2: Is there difference in the communication efficacy of discussion in accordance with the emotional tone of comments?

Research Question 3: Is there difference in the willingness to speak out in accordance with the emotional tone of comments?

### **3. Research Method**

#### **1) Introduction to the Experiment**

In order to examine the effect on communication efficacy of comments, communication efficacy of discussion and willingness to speak out depending on the emotional tone of comments, this Study used a quasi-experimental design the employment of questionnaire survey. Questionnaire survey was carried out for a period of a month in May 2014. As the issue of ‘privatization of railways’, which personally would affect the high school students as they frequently used the railways, was heatedly being discussed in the society at the time, this Study drafted articles and comments on the issue of ‘opposition to the privatization of railways’ and used as the experiment materials of the Study. Participants of the experiment first read the news article and then read the comments with rational and emotional contents for each of the groups. The participants were then asked to respond to the questions on the communication efficacy of comments and the communication efficacy of discussion, and, lastly, their intention to upload comments on the article was measured.

News articles and comments were used as experimental materials. News article materials were drafted by capturing the actual internet news images of the Naver that premier portal site in Korea, and the contents of the news articles that were actually published in relation to the ‘opposition of privatization of railways’ were modified and used after having deleted the name of the newspaper and the reporter. A total of 20 comments were uploaded for the news article, and all the 20 comments were manipulated to display either rational or emotional characteristics. The control group

was given no comment.

## **2) Measurements**

### **(1) Communication Efficacy of Comments**

The communication efficacy of comments was measured on the basis of the “usefulness of comments” of the existing researches. The usefulness of comments refers to the measurement of ‘whether the comments provide new information or are helpful in understanding the news article’ (Han, 2012). In this Study, the communication efficacy of comments was measured on the basis of the questions in the survey of the preceding research on the communication efficacy of comments and recognition (Kang, 2010; Han, 2012).

Specifically, the efficacy through comments was measured by means of 4 questions, namely, ‘reading the comment is helpful in understanding the article; comments on the news affect my thoughts; comment on the news reflect the public sentiments of our society very well; and comment on the news affect others who read them’, with 5-point scale (1 (not at all) ~ 5 (very much so)). The portion of the communication efficacy of comments that corresponds to the general awareness of the comment was composed of 5 questions, namely, ‘comments on news contain truth; comments on news are biased; comments on news are radical; comments on news are useful information; and comments on news are satisfactory’, also with 5-point scale.

### **(2) Communication Efficacy of Discussion**

Political discussion efficacy is defined as the "faith that contributions can be made towards democracy or political progress by discussing the overall aspects of politics" (Lee & Kim, 2006, 398p). In this Study, items used for the 'discussions on politics in internet' used by the existing researches were modified for use with the consideration of the fact that the subjects are high school students and the circumstance of ‘comment discussion space’. A total of 5 questions including ‘discussions through internet comments make contribution towards establishment of healthy public sentiments; discussions through internet comments is helpful in my making a better judgments; discussions through internet comments are making contributions towards advancement of democracy; discussions through internet comments will be able to bring advancement of the discussion culture in our society; and discussions through internet comments allow me to realize that the opinions of the constituent members of our society are rational’ were used.

### **(3) Willingness to Speak Out**

The willingness to speak out refers to the action of openly speaking out one’s opinion. In this Study, it refers to the intention to openly express opinion in the comment discussion space and the question of 'do you intend to personally upload comments in the comment discussion space in which you have just read comments should you be given an opportunity to do so?' with 4-point scale was presented (1 (not at all) ~ 4 (most definitely)). The control group was asked to respond to the question of "do you intend to personally upload comments in the comment discussion space should you be given an opportunity to do so?"

### 3) Analysis Method

Firstly, t-test on the key dependent variables was performed to examine the differences between the experimental groups. Through this, it was attempted to compare the differences in the communication efficacy of comments, communication efficacy of discussion and willingness to speak out between the group that read rational comment and the group that read emotional comment. Then, the cases that displayed statistically significant difference were subjected to additional comparison with the control group that read no comment. For this purpose, One-way ANOVA was executed and the difference amongst the 3 groups was examined. To specifically examine which of the groups have differences, Scheffé post-test analysis was used for the comparison between the rational group and the control group, and the emotional group and the control group.

### 4. Result

There were a total of 253 participants for the experiment, composed of 98 males (38.7%) and 155 females (61.3%). 2<sup>nd</sup> year high school students accounted for the largest proportion with 210 students (83.0%), followed by 32 3<sup>rd</sup> year students (12.6%) and 11 1<sup>st</sup> year students (4.3%). 80 subjects were allocated to the rational comment group, 81 to the emotional comment group and 92 to the control group with no difference in the gender and grade distribution between the groups.

#### 1) Difference in the Communication Efficacy of Comments according to the Emotional Tone of Comments

In order to examine whether differences in the communication efficacy of comments occur depending on the emotional tone of comments (rational/emotional) on the internet news, t-test for comparison between the rational comment group and the emotional comment was performed. In general, the communication efficacy of comments was higher for the rational comment group, which was found to be statistically significant. However, there was no statistically significant difference in the cases of 'affects others' and 'comment are biased'.

As illustrated in the <Table 1>, the group that read rational comment was found to think that the comments are more helpful in understanding the news article ( $t=4.733$ ,  $df=159$ ,  $p<.01$ ), affect their opinions to greater extent ( $t=4.543$ ,  $df=159$ ,  $p<.01$ ) and reflect the public sentiments of our society quite well in comparison to the group that read emotional comments ( $t=2.174$ ,  $df=159$ ,  $p<.05$ ). In addition, rational group, regarding the recognition of the comments, is found to assess that the comments contain truth ( $t=2.322$ ,  $df=159$ ,  $p<.05$ ), are not radical ( $t=-2.731$ ,  $df=159$ ,  $p<.01$ ), are useful as information ( $t=3.027$ ,  $df=159$ ,  $p<.01$ ) and satisfactory ( $t=4.348$ ,  $df=159$ ,  $p<.01$ ).

<Table 1> T-Test results for the Communication Efficacy of Comments on the Emotional Tone of comments

	Types	n	M	SD	t	df	p
Helpful in	Rational	80	3.10	.949	4.733	159	.000**

understanding article	Emotional	81	2.37	1.006			
Affects the judgment	Rational	80	3.33	1.111	4.543	159	.000**
	Emotional	81	2.56	1.037			
Reflects public sentiments of the society	Rational	80	3.10	1.086	2.174	159	.031*
	Emotional	81	2.74	1.010			
Affects others	Rational	80	3.90	.989	1.740	159	.084
	Emotional	81	3.65	.793			
Truthfulness	Rational	80	2.49	.811	2.322	159	.022*
	Emotional	81	2.17	.905			
Biased	Rational	80	3.84	.892	- 1.923	159	.056
	Emotional	81	4.10	.831			
Radical	Rational	80	3.80	.960	- 2.731	159	.007**
	Emotional	81	4.20	.886			
Useful as information	Rational	80	2.53	.954	3.027	159	.003**
	Emotional	81	2.09	.883			
Satisfactory	Rational	80	2.44	.926	4.348	159	.000**
	Emotional	81	1.80	.928			

(\* p<.05, \*\* p<.01 indicate statistical significance)

If there are differences between the experimental groups as the result of the t-test analysis, One-way ANOVA was executed additionally in order to examine whether there is difference in the comparison with the control group that read no comment. In addition, Scheffe post-test analysis was executed in order to specifically verify the significant difference between the groups. Examination of the results of the <Table 2> illustrate that there was no domain in which difference amongst all the 3 groups was detected. In addition, there was no difference between the group that read rational comment and the control group. Since the difference between the rational group and the emotional group was reported in the results of the t-test analysis, only the cases with difference with the control group will be reported.

Pattern of difference between the group receiving emotional comment and the control group was discovered in several domains. Firstly, there was significant difference amongst the 3 groups on the question of 'reading comments is helpful in understanding the news article' ( $F(2, 250)=18.648, p<.01$ ). In more detail, the group that read emotional comment ( $M=2.37$ ) displayed lower communication efficacy of comments regarding understanding of the news article in comparison to the control group ( $M=3.22$ ).

There also was significant difference amongst the 3 groups for the question of 'comments affect my judgment' ( $F(2, 250)=10.425, p<.01$ ). The group that read emotional comment ( $M=2.56$ ) displayed lower communication efficacy of comments associated with affecting of their judgment in comparison to the control group ( $M=3.10$ ).

There was no statistically significant difference amongst the 3 groups for the communication efficacy of comments regarding ‘comments reflect the public sentiments of our society quite well’. In the case of ‘comments contain truth’, although there were statistically significant differences amongst the 3 groups ( $F(2, 250)=3.314, p<.05$ ), there was no significant difference between the groups in the Scheffe post-test analysis.

There was significant difference amongst the 3 groups for the question of ‘comments are radical’ ( $F(2, 250)=7.553, p<.01$ ). The group that read emotional comment ( $M=4.20$ ) perceived the comments to be more radical in comparison to the control group ( $M=3.71$ ).

There also was significant difference amongst the 3 groups for the question of ‘comments are useful as information’ ( $F(2, 250)=11.532, p<.01$ ). Specifically, the group that read emotional comments ( $M=2.09$ ) was confirmed to have lower communication efficacy of comments in comparison to the control group ( $M=2.77$ ).

There also was significant difference amongst the 3 groups for the question of ‘comments are satisfactory’ ( $F(2, 250)=14.507, p<.01$ ). Group that read emotional comments ( $M=1.80$ ) was found to be less satisfactory about the comments in comparison to the control group ( $M=2.47$ ).

**<Table 2> ANOVA result for the Communication Efficacy of Comments among three groups**

	Groups	n	M	SD	F	df	p	Scheffe
Helpful in understanding the article	Rational A	80	3.10	.949	18.648	2, 250	.000**	A <sup>b</sup> , B <sup>c</sup>
	Emotional B	81	2.37	1.006				
	Control C	92	3.22	.959				
Affects the judgment	Rational A	80	3.32	1.111	10.425	2, 250	.000**	A <sup>b</sup> , B <sup>c</sup>
	Emotional B	81	2.56	1.037				
	Control C	92	3.10	1.149				
Reflects public sentiment of the society	Rational A	80	3.10	1.086	2.736	2, 250	.067	-
	Emotional B	81	2.71	1.010				
	Control C	92	3.03	1.032				
Truthfulness	Rational A	80	2.49	.811	3.314	2, 250	.038*	-
	Emotional B	81	2.17	.905				
	Control C	92	2.47	.907				
Radical	Rational A	80	3.80	.960	7.553	2, 250	.001**	A <sup>b</sup> , B <sup>c</sup>
	Emotional B	81	4.20	.886				
	Control C	92	3.71	.764				
Useful as information	Rational A	80	2.53	.954	11.532	2, 250	.000**	A <sup>b</sup> , B <sup>c</sup>
	Emotional B	81	2.09	.883				

	Control group C	92	2.77	.985				
Satisfactory	Rational A	80	2.44	.926	14.507	2, 250	.000**	A <sup>b</sup> , B <sup>c</sup>
	Emotional B	81	1.80	.928				
	Control C	92	2.47	.845				

(If superscript on other group indicated in the Scheffe verification section has been attached, it means that the difference between the corresponding groups is significant. A, <sup>a</sup> = a group who read to rational tone comments, B, <sup>b</sup> = a group who read to emotional tone comments, C, <sup>c</sup> = a group who doesn't read to any comments.)

## 2) Differences in the Communication Efficacy of Discussion in accordance with the Emotional Tone of Comments

In order to examine the differences in the communication efficacy of discussion in accordance with the emotional tone of comments, t-test was executed. In the case of the communication efficacy of discussion, there were statistically significant differences between the rational comment and the emotional comment groups. As illustrated in the <Table 3>, the communication efficacy of discussion of the rational group was found to be higher than that of the emotional group in all domains. This result in which the communication efficacy of discussion was found to be higher in the group that read rational comments can be interpreted as the result emphasizing the importance of rational comments in the internet space for discussion once again.

<Table 3> T-Test results for the Communication efficacy of Discussion on the Emotional Tone of comments

	Types	n	M	SD	t	df	p
Makes contribution towards establishment of health public sentiments	Rational	80	2.66	.927	4.000	159	.000**
	Emotional	81	2.10	.860			
Helpful in making better judgment	Rational	80	2.81	.929	5.508	159	.000**
	Emotional	81	2.06	.796			
Makes contribution towards progress of democracy	Rational	80	2.95	1.015	3.820	159	.000**
	Emotional	81	2.35	1.002			
Makes contribution towards progress of discussion culture	Rational	80	2.78	1.018	2.488	159	.014*
	Emotional	81	2.38	.982			
Recognition of rationality of opinion	Rational	80	2.38	.919	2.356	159	.020*
	Emotional	81	2.04	.901			

(\* p<.05, \*\* p<.01 indicate statistical significance)

In order to compare whether differences in the communication efficacy of discussion

between the experimental group and the control group, One-way ANOVA was executed additionally. In addition, Scheffe post-test was executed to confirm the significant difference between the groups specifically. As illustrated in the <Table 4>, there was no domain in which the difference on communication efficacy of comments amongst all of the 3 groups was found in overall, as was the case in the results of ANOVA. There was difference between the group that read rational comments and the group that read emotional comments, and group that read emotional comments and the control group. Since the difference between the rational group and the emotional group was reported in the results of the t-test, the following results on the differences between the emotional comment group and the control group are reported.

Firstly, there was significant differences amongst the 3 groups for the question of 'discussions through comments make contribution towards establishment of health public sentiments' ( $F(2, 250)=9.221, p<.01$ ). Specifically, the group that read emotional comments ( $M=2.10$ ) was found to feel that the discussions through comments do not make contribution towards establishment of health public sentiments, in comparison to the control group ( $M=2.55$ ).

There also was significant differences amongst the 3 groups for the question of 'discussions through comments is helpful in making better judgment' ( $F(2, 250)=16.371, p<.01$ ). The group that read emotional comments ( $M=2.06$ ) was found to think that discussions through comments is not helpful in making their judgment, in comparison to the control group ( $M=2.55$ ).

The question of 'discussions through comments make contribution towards progress of democracy' also displayed significant differences amongst the 3 groups ( $F(2, 250)=8.597, p<.01$ ). The group that read emotional comments ( $M=2.35$ ) was found to think that the discussions through comments do not makes contribution towards progress of democracy, in comparison to the control group ( $M=2.83$ ).

There also was significant differences amongst the 3 groups for the question of 'discussions through comments can bring about advancement in the discussion culture in our society' ( $F(2, 250)=5.192, p<.01$ ). Specifically, the group that read emotional comments ( $M=2.38$ ) was found to feel that the discussions through comments do not bring about advancement in the discussion culture in our society, in comparison to the control group ( $M=2.80$ ).

Lastly, the question of 'discussions through comments enables me to realize that the opinions of the constituent members of our society' are rational also displayed significant differences amongst the 3 groups ( $F(2, 250)=5.358, p<.01$ ). In particular, the group that read emotional comments ( $M=2.04$ ) displayed significantly lower communication efficacy of discussion, in comparison to the control group ( $M=2.45$ ).

**<Table 4> ANOVA result for Communication efficacy of Discussion among three groups**

	Groups	n	M	SD	F	df	p	Scheffe
Makes contributions towards establishment of healthy public sentiments	Rational A	80	2.66	.927	9.221	2, 250	.000**	A <sup>b</sup> , B <sup>c</sup>
	Emotional B	81	2.10	.860				
	Control C	92	2.55	.882				
Helpful in making better judgment	Rational A	80	2.81	.929	16.371	2, 250	.000**	A <sup>b</sup> , B <sup>c</sup>
	Emotional B	81	2.06	.796				
	Control C	92	2.55	.817				
Makes contribution towards progress of democracy	Rational A	80	2.95	1.005	8.597	2, 250	.000**	A <sup>b</sup> , B <sup>c</sup>
	Emotional B	81	2.35	1.002				
	Control C	92	2.83	.945				
Makes contribution towards progress of discussion culture	Rational A	80	2.78	1.018	5.192	2, 250	.006*	A <sup>b</sup> , B <sup>c</sup>
	Emotional B	81	2.38	.982				
	Control C	92	2.80	.829				
Recognition of rationality of opinion	Rational A	80	2.38	.919	5.358	2, 250	.005**	A <sup>b</sup> , B <sup>c</sup>
	Emotional B	81	2.04	.901				
	Control C	92	2.45	.776				

(If superscript on other group indicated in the Scheffe verification section has been attached, it means that the difference between the corresponding groups is significant.)

### 3) Differences in willingness to speak out in accordance with the emotional tone of comments

T-test to compare the rational comment group and the emotional comment group was executed to analyze the Research Question 3. Although both the rational group and the emotional group scored average of less than 2 points, thereby showing low intention to write comments, the group that read rational comments (M=1.88, SD=.832) was found to have slightly higher intention to express opinion in comparison to the group that read emotional comments (M=1.60, SD=7.69).

**<Table 5> T-Test results for the Willingness to speak out on Emotional Tone of comments**

	Types	n	M	SD	t	df	p
The willingness to speak out	Rational	80	1.88	.832	2.138	159	.034*
	Emotional	81	1.60	.769			

(\* p<.05, \*\* p<.01 indicate statistical significance)

In order to examine the differences between the experimental groups and the control group, post-test analysis following the One-way ANOVA was executed equally. As the results of the analysis, there was significant difference amongst the 3 groups ( $F(2, 250)=15.926, p<.01$ ). The group that read emotional comments ( $M=1.60$ ) has significantly lower extent of expressing their opinions in comparison to the control group ( $M=2.28$ ). That is, the group that read emotional comments displayed lower intention to write comments in comparison to the control group that did not read any comment, thereby confirming that exposure to emotional comments reduces the intention to express opinion through making comments in the internet.

**<Table 6> ANOVA result for the Willingness to speak out among three groups**

Groups	n	M	SD	F	df	p	Scheffe
Rational A	80	1.87	.832	15.926	2, 250	.000**	A <sup>b</sup> , B <sup>c</sup>
Emotional B	81	1.60	.769				
Control group C	92	2.28	.789				

(If superscript on other group indicated in the Scheffe verification section has been attached, it means that the difference between the corresponding groups is significant.)

## 5. Conclusion

This Study aimed to examine the communication efficacy of comments and communication efficacy of discussion, and willingness to speak out through making of comments in the internet spaces with focus on the emotional tone of comments made on internet news. Specifically, rational or emotional comments were presented and, in the case of control group, no comment was presented, to compare the differences in the communication efficacy of comments and communication efficacy of discussion as well as the willingness to speak out between the groups. Through this approach, it was aimed to examine whether the interest of the teenagers on the internet comments activates their political participation and enhances democracy. The summary of the results of this experiment using questionnaire survey are as follows.

As the results of the analysis of the <Research Question 1>, which examined the differences in the communication efficacy of comments in accordance with the emotional tone of comments (rational/emotional), statistically significant differences were found in 7 of the total of 9 questions. The communication efficacy of comments was found to be higher for the group that read rational comments for each of the

questions. Comparative analysis with the control group was performed only for the questions for which significant difference was found. In 5 questions, statistically significant differences amongst the 3 groups were observed, and, specifically, the communication efficacy of comments of the emotional group was found to be lower than that of the control group. There, however, was no difference between the rational group and the control group.

In the <Research Question 2>, the differences in the communication efficacy of discussion in accordance with the emotional tone of comments were examined. It was possible to observe statistically significant differences in all of the 5 questions. Similar to the communication efficacy of comments, the group that read rational comments displayed higher communication efficacy of discussion than the group that read emotional comments. As the result of ANOVA executed additionally for specific comparison between the experimental groups and the control group, significant differences were found amongst all the 3 groups for all of the 5 questions. Similar to the communication efficacy of comments, there was no difference between the rational group and the control group, and the communication efficacy of discussion of the emotional group was found to be lower than that of the control group.

In the <Research Question 3> that examined the differences in the willingness to speak out in accordance with the emotional tone of comments, although both of the group that read rational comments and group that read emotional comments displayed lower level of intention to write comments, the intention of the group that read rational comments to express opinion, nonetheless, was found to be higher, which was statistically significant. As the result of the ANOVA that additionally examined the differences with the control group, there was no difference between the rational group and the control group, while the rational group and the control group displayed higher intention to express opinions.

On the basis of the above research results, it was found that there are differences in the possibility of responses depending on what kind of comments people read. In particular, the result of increase in the intention to express opinion as well as the communication efficacy of comments and communication efficacy of discussion when the subject reads rational comment reminds us the importance of space for rational comments once again.

Moreover, the comparison to the control group that was not exposed to comments illustrates interesting results of the research. Although there was no particular difference between the group that read rational comments and the control group, it was possible to confirm that all of the communication efficacy of comments, communication efficacy of discussion and intention to express opinion were lowered for the group that read emotional comments, in comparison to the control group. The teenagers have the tendency of wishing that the internet comments on news will play rational and logical functions including establishment of healthy public sentiments, advancement of democracy and making contribution towards progress of discussion culture in the internet space. However, it is necessary that emotional comments offset these aspects. Accordingly, we need to ponder over the means of coping with emotional comments and preventing the side effects of emotional comments.

If the discussions through comments are conducted in rational manner rather than

with emotional tones, then, many more users will recognize the space for comments as the space for discussion and participate in the comment discussion spaces to greater extent. In particular, it is anticipated that the natural process of political socialization of the teenagers through the internet comments on news will create connecting link of virtuous cycle that enables them to voluntarily participate in the social issues with interest since their adolescent period.

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