網路論戰文章與網路認知曲解對情緒與攻擊行為之影響

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摘要

本研究以社會認知為理論基礎 (Bandura，1973 & Bandura,1986)，進行兩次實驗研究，探討網路論戰文章、網路認知曲解對情緒與攻擊行為之影響。

第一次的實驗目的：探討研究者所設計的三篇低、中、高的 BBS論戰文章，是否能區分為三個層次。研究者邀請 69位大學生，先閱讀研究者所設計之三種網路論戰文章之後，再區分出三篇文章的敵意與厭惡程度。研究結果顯示，三篇文章的敵意 (F=4.11, P<.05)與厭惡 (F=3.31, P<.05)程度均有差異。閱讀高論戰文章的受試者之敵意與厭惡的得分也顯著大於閱讀低論戰文章的受試者。所有受試者的敵意與厭惡得分也有相關 (r=.49，P<.01)。以上結果顯示，受試者閱讀論戰文章之後，會感受到敵意與厭惡，並且能區分這三篇論戰文章的論戰程度，亦也同時證明研究者所設計之文章具有敵意且有層次之分。研究者遂進一步對三篇文章進行內容分析，將文章命名為直接攻擊論戰、間接攻擊論戰、對立論戰文章。

第二次的實驗目的在探討研究者所設計的三篇網路論戰文章、網路認知曲解對於情緒與攻擊之影響。 359位 BBS使用者，經由系統隨機分配實驗一中的三篇 BBS論戰文章的其中一篇來閱讀，並填寫網路問卷。研究結果顯示，雖然閱讀文章之後的受試者其攻擊行為與認知曲解量表得分並無交互作用 (F=1.160, P>.05)，但是網路認知曲解高低分組之攻擊得分達顯著差異 (F=76.222，p<.05)。此結果支持了 Crick & Dodge(1994), Berkowitz(1993)認為認知曲解會增加攻擊行為的見解相同。雖然在兩次的情緒前後測得分與受試者之攻擊、認知曲解無交互作用 (F=.064，P>.05)，但是認知曲解高低組別的情緒在前後測卻是有顯著差異的 (F=4.550，p<.05)，而且全體受試者在實驗前後測的情緒得分有顯著差異。從實驗一、二中可知，雖然受試者可以區分網路論戰文章的敵意程度、閱讀文章後情緒也的確受到影響，但卻不會因為閱讀論戰文章而提高其攻擊行為。但是值得注意的是：高認知曲解的受試者無須閱讀論戰文章其情緒與攻擊行為就會被引發。本研究顯示認知曲解為造成網路攻擊行為的主要原因。但是網路論戰文章是否真無法引發攻擊行為，或許有待學者在未來做更深入研究來證實。

關鍵詞 :攻擊、網路認知曲解、網路論戰、情緒。

1. Introduction

The internet has become the most popular communication tools and media nowadays. The aggressive messages, flaming (Joinson,1998) has increased noticeably. Based on the cognitive behavior theory (Bandura, 1973 & Bandura,1986), this study explored the effects of flaming messages and internet cognitive distortion on emotion and aggression. Bandura (1973) indicated that people learn social behaviors (e.g. aggressive behaviors) by observing others' behaviors and imitating them. The more media violence children watched, the more aggressive they would become (Bandura, 1986). Berkowitz (1993) illustrated that people exposed to the media violent would relate the cognition, attitude, emotion and reaction of violence and form an aggressive net to be strengthened by the continuous violence. As long as they were stimulated, the aggressive net would be aroused and then evoke the aggressive behaviors.

Does online aggressive behaviors are evoked by the flaming messages as well? Thompsen & Fouler(1996) illustrated a model of flaming ,including five phases of different strength: (1)Divergence, (2) Disagreement,(3) Tension, (4)Antagonism, (5) Profane antagonism.

On the other hand, aggression was defined as any form of behavior that was intended to injure someone physically or psychologically (Berkowitz, 1993). Buss (1961) defined aggression as a response that delivers noxious stimuli to another organism. Bjiirkqvist, Osterman, & Lagerspetz(1992)indicated three types of aggression: direct physical, direct verbal, and indirect with scales. In addition, the researchers of cognitive behavior theory asserted when people were in the anger and frustrated situation and adopt maladaptive information process, such as cognitive distortions and hostility attribution bias; their aggressive behaviors would occur increasingly (Crick & Dodge, 1994). Researchers supported that cognitive distortions would increase people's aggressive behaviors (Crick & Dodge, 1994; Berkowitz, 1993). Barriga & Gibbs(1996) provided four kinds of cognitive distortions related to aggressive behaviors: self-centered, mislabeling, assuming the worst and blaming others.

Moreover, emotion was a mental state that arises spontaneously rather than through conscious effort and was often accompanied by physiological changes (Ekman, 2003). Lazarus& Lazarus (1994) addressed that emotion was a complex mental process, proposed it as cognitive motivational relational model. The studies on the relationship among aggression, cognitive distortion and emotion appeared on the CMC were few. Accordingly, the research group tried to examine this topic.

2. Study 1

The purpose was to make sure whether the flaming messages written by the researchers could be classified to three levels.

2.1 Research questions

Could the flaming messages conducted by the researchers be classified into several levels?"

2.2 Questionnaire

The researchers conducted three levels of flaming message based on the aggressive and flaming theories (Bjiirkqvist, Osterman, & Lagerspetz, 1992 ; Buss, 1992; Brad & Craig ,1998 and Thompson and Fouler, 1996). The researchers used the event which had appeared on the campus and caused impacts to students, such as the argument of wild dogs. The operative definition and sentences used in three levels of flaming message were described as following.

The high/direct aggressive flaming messages were conducted that to attack each others and post insulting verbal, flaming message, forgetting what they disagree originally. The middle/indirect flaming messages were to look down on others, teases, and use acidulous sentences. The low/disagreement messages expressed oppose opinions directly, but there were no aggressive opinions, offering evidences to support themselves.

2.3 Subjects and procedure

69 college students are recruited from the BBS. They are allocated randomly to read one of the three flaming messages. After reading, they are asked to judge the hostility levels (from 1 to 7)and the disgust level (from 1 to 7).

2.4 Results

The analysis of variance for the data displays(see table 1) showed there was a significant difference in hostility across the three levels of flaming messages ($F=4.11, P<.05$). The post comparison indicated that group direct and disagreement were significantly different ($p<.05$). The hostility scores of group direct were higher than group disagreement significantly ($p<.05$). The group direct & indirect and group

indirect & disagreement were not significantly different.

Table 1 The analysis of variances among hostility and disgust scores of flaming messages

Variables	Aggressive messages	Numbers	Mean	Std Dev	F	Post hoc
1.hostility	Direct	31	5.87	1.60	4.11*	Direct> Disagreement
	Indirect	13	4.76	1.92		
	Disagreement	25	4.68	1.62		
2.Disgust	Direct	31	3.80	1.74	3.31*	Direct> Disagreement
	Indirect	13	3.31	1.93		
	Disagreement	25	2.68	1.28		

*P< .05

Moreover, there was a significant difference in offense scores across the three levels of flaming messages (*F=3.31, P<.05*). The post comparison indicated that groups direct and disagreement were significantly different. The disgust scores of group direct were higher than disagreement significantly (p<.05). The group direct & indirect and group indirect & disagreement were not significantly different. There was a statistically significant relationship between hostility (*Mean=5.23, SE=1.75*) and disgust scores (*Mean=3.30 , SE=1.68*). The correlation coefficient was 0.49 (p<.01), indicating a middle relationship between them. (See the table 2)

Accordingly, the results explained that subjects can feel both disgust and hostility, and classify the aggressive levels among the messages. On the other hand, the results proved that the flaming messages could be classified into three types: direct aggression, indirect aggression, and disagreement.

Table 2 Zero-order correlation coefficients between hostility and offense grades

Variables	Hostility	Offense
	M=5.25 . *SD*=1.75	*M*=3.30. *SD*=1.68
hostility	--	.49**
Disgust	.49**	--

**P<.001*

The content of the direct aggressive messages consisted of sentences “call others names,” “fuck”, etc. The content of the indirect aggressive messages consisted of sentences “I am a PhD students and superior to you,” “Are the wild dogs’ lives are more important than ours?”, etc. Finally, the content of the disagreement messages consisted of sentences “I am not happy with your views,” “what on earth do you disagree? ”, etc.

3. Study 2

The purpose was to study the effects of online flaming messages and Internet cognitive distortion on emotion and aggression.

3.1 Research questions

Did people with high and low levels of Internet cognitive distortion report higher aggression scores after reading the online flaming messages?

Did people with high level internet cognitive distortion report higher negative emotion scores after reading the flaming messages?

Was there a three way interaction among flaming messages, Internet cognitive distortion, as well as pre and post emotions on aggression scores?

Was there a three way interaction among flaming messages, Internet cognitive distortion, as well as pre and post emotions on emotion score?

3.2 Questionnaires

The Questionnaire consisted of several parts: the scale of emotion, Internet cognitive distortion, Internet aggression, and three levels of flaming messages. The online flaming messages were adopted from Study 1. The scales were validated by factor analyses using principle component method and varimax rotation. The scale of emotion was revised from the scale by Levine, Wyer, & Schwarz(1994). The Internet cognitive distortion scale was revised from the scale “Inventory of Hostility Cognitive Distortions(IHCD) “ by Lin,& Hwang (2005). The internet aggression scale was revised from the scale “Internet Hostility Questionnaire (IHQ)” by Lin& Hwang (2005).

3.3 Subjects and procedure

359 college students are recruited from the BBS.

The subjects first are asked to answer the scale of Internet cognitive distortion and emotion. Then the system assigns the three levels of flaming messages to subjects to read at random. After reading the messages, they were asked to answer the scales of Internet aggression and emotion.

3.4 Measurement

The experiment was between-subject factorial design. The researchers divided subjects into high and low cognitive distortion by comparing the scores of cognitive distortion scale whether were above the average grades. Then the subjects were assigned to read one of the three flaming messages at random. The subjects were assigned into six groups, see the table3.

Table3 The group of subjects in the treatment

	high cognitive distortion	low cognitive distortion
Direct aggressive flaming message	H1(N=86)	L1(N=59)
Indirect aggressive flaming message	H2(N=63)	L2(N=39)
Opposite flaming messages	H3(N=60)	L3(N=52)

3.5 Results

The research group adopted the previous flaming messages and scales to precede the experiment. The descriptive statistics of variables were presented on Table 4.

Table 4 The descriptive statistics of variables

	Cognitive distortion	Means	Std Dev	Numbers
Direct aggressive flaming messages	High	56.47	6.07	86
	Low	47.92	7.89	59
	Sum	52.99	8.04	145
Indirect aggressive flaming messages	High	55.79	9.29	63
	Low	48.51	7.41	39
	Sum	52.87	9.24	102
Opposite flaming messages	High	55.83	7.74	60
	Low	48.63	6.36	52
	Sum	52.82	7.65	112
Sum	High	55.83	7.62	209
	Low	48.63	7.25	150
	Sum	52.82	8.26	359

The two-way analysis of variance displayed that there were not a significant difference in aggression scores (See the Table 5) across interaction between the flaming messages and cognitive distortion (*F=1.160, P>.05*). There was not a significant difference in aggressive grades (See the Table 4) across the three levels of flaming messages (*F=.044, P>.05*). However, there was a significant difference in aggression grades across the cognitive distortion (*F=76.222, P<.05*).

Table5 Three-way analysis of variances in aggression across flaming messages and cognitive distortion scores

Variables	SS	df	MS	F
flaming messages	4.965	2	2.483	.044
cognitive distortion	4269.540	1	4269.540	76.222***
flaming messages *cognitive distortion	129.945	2	64.973	1.160
Revised Sum	24437.231	358		

****P<.001*

The researchers furthered to compare aggression grades means for high and low cognitive distortion grades. The descriptive statistics of variables and t-test results were presented on Table 6. The result displayed that the aggression scores of high Internet cognitive distortion were higher than the scores of low Internet cognitive distortion (*T=9.01, P<.001*).

Table 6 The comparison of aggression grades means for high and low cognitive distortion grades

	Cognitive distortion	Numbers	Means	Std Dev	T Value
Aggression	High	209	55.83	7.62	9.01***
	Low	150	48.63	7.25	

**P<.001*

The mix design three-way analysis of variance displays that there was not a significant difference in twice emotion scores (see the Table 7) across interaction among the flaming messages, Internet cognitive distortion. (*F=.064, P>.05*).

However, twice emotional scores (measurement timing) were different significantly (*F=640.923, P<.001*).Moreover, there was a significant difference in emotion grades across the high and level Internet cognitive distortion (*F=76.222, P<.05*).

Table 7 The mix design three-way analysis of variance across variables and timing

Variables	SS	df	MS	F
Emotion (Timing)	640.923	1	640.923	38.349***
cognitive distortion	512.560	1	512.560	4.550*
flaming messages	97.497	2	48.749	.433
cognitive distortion* flaming messages	71.338	2	35.669	.317
Time* cognitive distortion	9.154	1	9.154	.548
Time* aggressive messages	19.706	2	9.853	.590
Time* cognitive distortion *flaming message	2.133	2	1.066	.064
Within errors				
Within subjects	39767.541	353	112.656	
Uniqueness	5899.725	353	16.713	
Total				

**P<.05, ***P<.001*

4. Conclusion and discussion

The first finding of this study indicated that the flaming messages written by the researchers could be classified into three levels: direct aggressive, indirect aggressive, and disagreement. The classification accorded with the flaming strength of Thompsen & Fouler(1996), the aggression levels of Buss (1961), and theory of Bjiirkqvist et al (1992). The result displayed that scores of subjects reading direct aggressive flaming in hostility and disgust were higher than the disagreement messages. This evidence supported the assertion of flaming strength of Thompsen &Fouler(1996). Moreover, the direct messages consisted of bad languages and the indirect aggressive consisted of tease. Since the online aggressive behaviors were only reveal in verbal information, the hostility and disgust feeling between direct and indirect flaming message were possible difficult to make the differentiation.

The second finding explained that there were no interaction between flaming messages and Internet cognitive distortion in aggression. There was not a significant difference in aggressive scores after subjects reading three level flaming messages as well. However, the aggressive behaviors were significantly different between group high and low Internet cognitive distortion. The result was in line with previous studies that cognitive distortions would increase people's aggressive behaviors (Crick & Dodge, 1994; Berkowitz, 1993). Looking back to the first finding, the subjects could recognize hostility and disgust feelings from the three level messages. The second finding displayed only the Internet cognitive distortion had impact on aggression. Accordingly, although the subjects had rational views on the flaming messages, the users with high internet cognitive distortions tended to behavior more aggressively online than other users without flaming messages evoked.

The third finding indicated that there was no interaction between flaming messages and Internet cognitive distortion in twice emotion. There was a significant difference in twice emotion grades. In addition, there was a significant difference in twice emotion grades across the high level Internet cognitive distortion. The results explained that subjects' emotion was evoked by the treatment. The emotional state of Internet cognitive distortion was influenced by times. Accordingly, the flaming messages could not let subjects' emotion change, but the twice emotion between group high and low Internet cognitive distortion changed. The result was the assertion of theories of Crick & Dodge(1994) and Lazarus& Lazarus (1994). They indicated that cognitive distortions were untruthful, false attitudes and dogmatic, radical thinking. They also addressed emotion was a complex mental process and response one's cognition. The cognitive distortions lead one's negative emotion to be evoked. In Conclusion, the results indicated that flaming messages could cause emotional change. In addition, although the subjects

could classify the flaming messages and their emotion changed during the treatment, they did not behave aggressively after reading the flaming messages. However, subjects with high Internet cognitive distortion behaved aggressively and emotion change violently without reading flaming messages. As a result, the chief reason for online aggression was possible the Internet cognitive distortions.

At last, the researchers suggested the flaming messages were some limitations and might cause fail to evoke aggressive behaviors. According to theories of Berkowitz (1993) and Buss (1961) aggression were both active and passive. The flaming messages researchers conducted were not subjects' active behaviors. They were passive to read the messages and had no target to aggress. In addition, they were bystanders and not threatened to reactive. Although all the subjects' emotion would be aroused after the treatment, the subjects' aggressive behaviors were hard to evoke. The subjects with high cognitive distortion had extreme character and intended to aggress without reasons, and for them, our flaming messages was nothing. Maybe the Bandura's (1973, 1986) aggression theory from social learning theory was still correct, and the experimental design must be careful to examine the issue. The future study could investigate further follow the results.

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