

PICE: Four Strategies for BBS Talk in Taiwan and their Interactions with Gender Configuration and Topic Orientation^{*}

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The relationship between gender and discourse has been the focus of a substantial body of research over the past decade. Theories of gender discourse are generally based on one of three models: (a) the dominance model, (b) the difference model, or (c) the postmodern paradigm. This study applies those three models to data found in 189 conversations collected from BBS sites in Taiwan. Specifically, this paper investigates the effect of gender configuration (single- vs. cross-gender) and topic orientation (informational vs. emotional) on the use of four particular strategies in Mandarin BBS discourse: use of sentence-final particles (p), intensifiers (i), code switching (c), and emoticons (e), which together form the acronym PICE. Our data show significant relationships between: (a) gender configuration and the use of utterance-final particles, intensifiers, and emoticons of embarrassment; (b) topic orientation and the use of happiness emoticons. The data also demonstrate effects of gender-topic interaction on the use of code switching. Our analysis illustrates how each of the three models of gender discourse above can explain part of the interaction between gender configuration, topic orientation, and PICE. Our results also demonstrate the importance of comparing single-gender with cross-gender data to investigate gender-based patterns in communication.

Key words: PICE, gender configuration, topic orientation, BBS communication, theory of gender discourse, Mandarin, Taiwan

1. Introduction

The relationship between gender and discourse has been the focus of a substantial body of research over the past decade (Coates 1993, 1996, 1998, Eckert & McConnell-Ginet 2003, Hall & Bucholtz 1995, Hayasi 1998, Holmes 1990, 1995, Jan 2003,

^{*} We would like to extend our thanks to Chung-Ping Cheng for his generous help with statistical details, and to Tanya Visceglia for her insightful comments and discussion. An earlier version of this paper was presented at the Second Seoul International Conference on Discourse and Cognitive Linguistics, June 7-8, 2003.

Johnson & Meinhof 1997, Lewis 2003, Ostermann 2003, Roman, Juhasz & Miller 1994, Soukup 1999, Tannen 1990, 1993, 1994). Theories of gender discourse are generally based on one of three models: (a) the dominance model, (b) the difference model, or (c) the postmodern paradigm.

The dominance model (Fishman 1980, Lakoff 1975, 1995, O'Barr & Atkins 1980) describes gender differences in language in terms of the power imbalance between men and women in society (Lakoff 1995:29). According to this theory, "women's language" is characterized by linguistic features conveying women's inferior social status. Lakoff (1975) pioneered the study of the interaction between linguistic forms and gender, proposing that the characteristics of women's language, such as tag questions, rising intonation on declaratives, lexical hedges, boosters or amplifiers (i.e. intensifiers), diminutives, euphemisms, and circumlocutions, all serve to reflect women's inferior status in society.

The difference model (Maltz & Borker 1982, Tannen 1990, 1993, 1994) posits that discourse between the genders reflects the subcultures of men and women, so that the communication between genders can be compared to 'cross-cultural communication' (Tannen 1990:42). Men and women use language for different purposes in dissimilar ways (Tannen 1990); thus, their communication is oriented toward different goals. For example, men use language to reinforce their own status, while women use it to seek support. Other oppositions include: independence vs. intimacy, advice vs. understanding, conveying information vs. feelings, contest vs. cooperation, command vs. proposal, and conflict vs. compromise.

The postmodern paradigm (Cameron, McAlinden & O'Leary 1988, Graddol & Swann 1989, Hall & Bucholtz 1995, Holmes 1982, 1990, 1995) views gender and identity as being "constantly shifting categories" (Hall & Bucholtz 1995), which are continuously being constructed during the discourse process. Language is actively controlled by speakers for communicative effect, and speakers move within a range of communication styles in order to adapt to different social contexts. Consequently, there is no fixed meaning for a linguistic form; instead, the meaning continually shifts, generating multiple functions within and across discourse contexts.

This paper tests the validity of these three models using a large corpus of single and cross-gender Bulletin Board System (BBS) conversations drawn from the online community in Taiwan. Specifically, this paper investigates the effect of three gender configurations (male-male, male-female, and female-female) and two topic orientations (informational vs. emotional) on the use of four strategies in Mandarin BBS conversations. These four strategies are: sentence-final particles, intensifiers, code switching, and

emoticons,¹ acronymized as PICE. Sentence-final particles, intensifiers, and code switching are characteristic of spoken language and are also used extensively in written BBS conversation. Emoticons are used in BBSs to mimic facial expressions during face-to-face communication. As Crystal (2001) suggests, emoticons are an aspect of “netspeak” critical to expressing one’s attitude and moderating social relationships. Altogether, these four strategies exhibit the characteristics of spoken language; they can be interpreted as “coloring strategies”, used to enrich the communicative intent of BBS discourse. Metaphorically, the use of PICE “spices” the written BBS text by introducing vivid features of spoken languages.

Among the many functions of Taiwan BBS, the function of instant messaging offers two important advantages in investigating discourse-related phenomena: first, as mentioned above, BBS language includes many features of oral communication not found in other written texts, as exemplified by its PICE features. In this way, it is a stable database ideally suited to quantitative discourse analysis. Second, BBSs typically include a combination of emotion- and topic-oriented communication, since it is a public domain designed for people to exchange both personal feelings and general information. An additional advantage of BBS data lies in providing large samples of both same-gender and cross-gender communication.

The results show significant effects with respect to: (a) gender configuration in the use of utterance-final particles, intensifiers, and emoticons of embarrassment; (b) topic orientation in the use of happiness emoticons, and (c) gender-by-topic interaction in the use of code switching. We interpret these results using the three models of gender discourse introduced above, demonstrating that each of the three models can explain part of the interaction between gender configuration, topic orientation, and PICE.

This paper will be organized as follows. A description of PICE in discourse and relevant literature will be followed by a description of our methodology, our results, and discussion. The discussion section will interpret the results of this study using the difference model, the dominance model, and the postmodern paradigm. In conclusion, we shall discuss the implications of our analysis for theories of gender discourse.

2. Background and literature review

Compared with those in the U.S. and other parts of the world (see Huffaker 2004 for an introduction), bulletin board systems in Taiwan have more functions and provide

¹ One might argue that emoticons are not linguistic forms and should be called “the paralanguage of the Internet” (Dery 1993). We agree with this view since we believe that emoticons are used in BBS to mimic facial expressions in face-to-face communication.

more opportunities for interpersonal communication. Taiwan's BBS serves as more than just a webpage for people to post their opinions; it also offers functions that allow interactions between people, such as "instant" message chatting, online chat-rooms, and e-mail. Hence, previous studies of BBS interactions outside of Taiwan have focused only on bulletin board posts (e.g. Bai & He 2003, Chen 2005), which lack the interactive communication dimension of chat or instant messaging. Our research, in contrast, examines the less-studied topic of BBS interpersonal communication, the interactive nature of which makes it more closely resemble spoken discourse.

Restrictions on the maximum length of messages differ among BBS stations, and the messages are recorded automatically by the systems. All sent and received messages are saved and can be accessed during and after the conversation. We collected 189 on-line single-gender (59 female/female, 35 male/male) and 95 cross-gender BBS conversations.² The conversations had already been saved to the participants' mailboxes before we obtained permission to analyze them. Since all conversations occurred before the participants knew that they would be analyzed, the content and style of these conversations were not influenced by knowledge of their being observed.³ The age of the participants (54 men and 69 women) ranged between 17 and 24; all spoke Mandarin or Taiwanese Southern Min as their first language. All the participants had been acquainted prior to their BBS interactions. To minimize the effects of ideodialectal variation, we selected a maximum of twenty conversations from each subject. In addition, although we excluded conversations with less than ten sentences, since these generally did not provide enough information for our purposes, we did not set a maximum conversation length. The following sections focus on the PICE we found to be characteristic of BBS discourse: utterance-final particles, intensifiers, code switching, and emoticons.

2.1 Utterance-final particles

Previous research suggests that the use of particles may be linked to gender. For example, in Turkish (Hayasi 1998), men use the sentence-final particle *yahu*, while women do not. Okamoto (1995) finds that women tend to use more sentence-final particles to soften sentences and use fewer emphatic particles in Japanese than men do.

Mandarin has two types of utterance-final particles: (1) particles that perform grammatical functions and therefore cannot be omitted, such as *ma* 嗎, which transforms a statement into a question; and (2) modal markers (see example (1)), which express the

² We use the term *gender* rather than *sex* because *sex* has other meanings that may cause confusion.

³ The sample may have been skewed, however, by the fact that the conversations sent were selected by the participants themselves.

attitude of the speaker. The latter seldom appear in written texts but are common in verbal discourse. In (1), the *ba* 吧 at the end of the sentence is a modal particle that can be omitted, but the addition of *ba* 吧 gives the sentence a feeling of uncertainty.⁴

- (1) M08:⁵ ㄗ... 那 找找 可以 讓 自己
 e... na jhaojhao keyi rang zihji⁶
 HV⁷ then find able let self
 放鬆 的 辦法 吧 :)
 fangsong de banfa ba :)
 relax Mod solution **UFP** <smiling emoticon>
 ‘eh... Then find a solution that allows you to relax.’

As the sentence itself is an imperative statement, adding *ba* 吧 is a strategy to impart a kind, suggestive, and encouraging attitude.

Since Mandarin is a tonal language (as opposed to English, which is an intonational language), the second type of utterance-final particle assumes the function of intonation and conveys rich semantic and pragmatic information about the utterance (Chan 1999). Chan (1999) suggested that the intonational meaning of these utterance-final particles were important in helping interlocutors understand the emotional state and attitude of the other speaker. Using these particles, Chinese expresses various modalities, such as doubt, affection, and levels of certainty (Tang 2000).

⁴ Final particles that cannot be omitted from the sentence for grammatical reasons, such as aspectual *le* 勒, question particle *ma* 嗎, the question particle *ne* 呢 and some occurrences of *ba* 吧 are not included in our data.

⁵ The names of the subjects have been replaced with codes. M stands for male, and F stands for female, followed by a subject number. For example, subject M08 in (1) is the eighth male subject. The bold and underlined format is added by us for highlighting the PICE on which this paper focuses.

⁶ Taiwan Tongyong Romanization is used to transcribe Mandarin utterances throughout this paper. This Romanization system differs from Hanyu Pinyin Romanization in the following respects: *c=q*, *s=x*, *jh=zh*, *-ih=-i* (for *zih*, *cih*, *sih*, *rih*, *jhih*, *chih*, *shih*), *-iou=-iu*, *-uei=-ui*, *wun=wen*, and *wong=weng*, etc. For a more detailed discussion of the differences between these two Romanization systems, please refer to the website <http://abc.iis.sinica.edu.tw/main.htm>.

⁷ Please refer to the Abbreviations section provided in Appendix I.

2.2 Intensifiers

According to Lakoff (1975), women's use of intensifiers in English (such as *so* and *really* in {*I like him so much.*} and {*It's really good.*}) is an indicator of their lack of confidence. Challenging this view, Eckert & McConnell-Ginet (2003:184) point out that in Japanese, emphatic particles are used less frequently by women. Similarly, in English, men usually take the lead in using hedging modifiers, such as *kinda*, *sorta*, and *pretty*, as a "downtoner".

Our data include Mandarin intensifiers such as *jhen* 真, *chao* 超, *hao* 好, meaning 'really', 'super', and 'so', an example of which is given below in (2):

- (2) M01: 唉... 質法 報告
 ai... maofa baogao
 sigh commerce_and_law report
 真 是 煩 啊 >>
jhen shih fan a >>
 really is annoying UFP <frowning emoticon>
 'Sigh... The commerce-and-law report is really annoying.'

The word *jhen* 真 'really' in (2) is an intensifier that emphasizes the speaker's annoyance with the commerce-and-law report. *Jhen* 真 can be omitted; it is added as an emphatic marker amplifying the speaker's strong annoyance about writing the report. As shown in the example, *jhen* 真 'really', along with other intensifiers we have mentioned above, can be used by both men and women in Mandarin. Gender differences in the use of Mandarin intensifiers will be investigated in subsequent sections.

2.3 Code switching

Code switching is a sociolinguistic phenomenon, which either increases solidarity among group members or increases social distance between groups. It has been characterized as an expression of ethnic consciousness (Huang 1993), a diglossia between high and low dialects (Fasold 1990), and a reflection of economic power and status in society (Gal 1979). Code switching is influenced by social and political situations, as well as the speaker's personal estimation of the languages involved.

Performance of code switching can also be influenced by gender. Foster (1995) found that African-American women code switch more often between Standard English and African-American Vernacular English than African-American men do. In Mandarin, Cheng (2001) observes that anchormen perform more code switching between Chinese

and English when reporting sports news than anchorwomen do. In our data, we have observed three types of code switching: Mandarin to English, Mandarin to Taiwanese and Mandarin to Japanese. Of these types, Mandarin to English occurred in our data most often. The following is an example:

- (3) F47: 嗨...
 hai....
 hi (written as a Chinese character)
- M01: hi...
hi...
 hi (written in English orthography)
- <<message truncated>>
- M01: 就是 你的 英文 typing error
 jioushih nide yingwun... typing error
 namely your English typing error (in English orthography)
- 要 儘量 避免
 yao jinliang bimian
 need preferably avoid
 ‘As for your English... It’d be better for you to avoid typing errors.’

Example (3) includes two types of code switching: (a) change of orthography and (b) change of language. In type (a), M01 types *hi* with English letters instead of spelling out the sound of *hi* in Chinese characters as F47 does. ‘*Typing error*’ belongs to type (b), because M01 uses English, rather than the corresponding Chinese phrase.⁸

2.4 Emoticons

Internet chat employs emoticons to mimic facial expressions used in conversation. Imitation of facial expressions is a tool of communication that an infant acquires at about eight to twelve months of age (Cole 1999). Mastery of facial expressions from eye contact is necessary to develop successful social interaction skills.

Use of emoticons to reflect the speaker’s attitude is a particular characteristic of ‘netspeak’ (Crystal 2001:24). Pervasive use of emoticons is also found in our data. The

⁸ Note that English names, address of websites, and computational or technical terms, such as *power* (referring to the power of a CPU), are not counted as code switching since no corresponding Chinese phrase exists for most terms.

emoticons in our BBS data are composed of symbols indicating eyes or eyebrows, and symbols representing the mouth. The combinations of emoticons vary, but the eyes (or eyebrows) are always represented, usually by a colon (:), which is followed by a mouth emoticon (P, D, >,), 0, or Q). Sometimes eyebrows (^) are used to replace the emoticon for eyes. A wide-eyed gaze is represented by the emoticon @@. Slashes, dots or straight lines behind the eye-signs represent blushing and sweat, which imitates the style of representing embarrassment in comic books. A list of the emoticons in our data appears in Table 1.

Table 1: Emoticons appearing in our collected data

Emoticons of happiness	:P ^^ -^++++^_	:D ^^**	:> *^^*	:) ^ _ ^	;0 ^0^	:Q =^0^=
Emoticons of embarrassment	@”@ @.@a ^^b =_= ^^Y QQ ~”~	@(a” Q.Q ^^” -.- *_ qq A_A	@@ Q_Q ^^? -_ =_=”” -.- !_!	@_@ 0.0y =_= -_b p_q ^^;; -_	@@? -.-y -_? -- T_T ^^::	@@++ ^^! -_+ -.-!! =.= o.0

The emoticons shown in Table 1 are subcategorized with respect to their form and function in Table 2:

Table 2: Emoticon forms and functions in our collected data

(1) Emoticons representing the mouth;	Form
(2) Emoticons without the mouth;	
(3) Emoticons composed of @@, which represents wide eyes;	
(4) Emoticons not containing big-eye emoticons;	
(5) Emoticons expressing anger;	Function
(6) Emoticons expressing happiness	
(7) Emoticons expressing embarrassment.	

Emoticon forms are categorized on the basis of the way in which their configuration

imitates the most important two parts of the human face, the eyes and mouth. The functions of emoticons are based on the emotions that these symbols represent. The implications of this categorization system will be discussed in subsequent sections.

3. Methodology

Conversational content was classified as being either information-oriented or emotion-oriented. Information-oriented discussions in our data included such topics as details about a new job, teachers' lecture styles, course requirements, and making appointments. Emotion-oriented topics included greetings and gossip. Since topic orientations often switched, long chats were often divided into several sub-chats. For example, a continuous conversation such as (4a) and (4b) was divided into two sub-chats when the topic of the chat changed from greetings (4a) to exchanging technical information (4b).

- (4) a. M08: sorry... 剛剛 在 測試 帳號
 sorry... ganggang zai ceshih jhanghao
 sorry (in English) just_before at test account
 所以 一直 上上下下地 :P
 suoyi yijhih shangshangsiadi :P
 thus keep up_and_down <smiling emoticon>
 'Sorry, I was just testing my account, so the system kept going up and down.'
- F59: sogu.
 sogu.
 I see (in Japanese)
 'I see.'
- F59: 好 無聊 喔! 我 要 下去 好 了
 hao wuliao o! wo yao siacyu hao le
 so boring UFP! I want go_down better Asp
 'This is so boring! I think it's better for me to sign off.'
- M08: 無聊? 那 去 唸書 咪...
 wuliao? na cyu nianshu mi...
 boring? then go study UFP...
 'Boring? Then go study.'

- b. F59: 狗狗 你 回訊 都 按 什麼
gougou ni hueisyun dou an shenme
PN you reply_message always press what
‘Doggy, what (keys) do you press when you reply to messages?’
- M08: Ctrl + r
Ctrl + r
Ctrl + r (in English)
‘Ctrl+r.’
- F59: 喔! 因為 我 按 ctrl r 的 時候
o! yinwei wo an ctrl r de shihhou
o! because I press ctrl r (in English) Mod time
上面 出現 了 一 行 字...
shangmian chusian le yi hang zih...
top appear Asp one line word
‘Oh! When I pressed ctrl+r, a line of words appeared at the top
(of the screen).’
- M08: 對 阿 然後 不 理 它
duei a ranhou bu li ta
yes UFP then Neg care it
直接 打 你的 就 會 有 了 :)
jihijie da nide jiou huei you le :)
directly type yours then will have Asp <smiling emoticon>
‘Yes. Ignore that. Type in your words directly, and they will appear.’

The conversation in (4a) was composed of the man’s apology and the woman’s expressions about her emotions. The man’s apology served as the start of whole conversation. As the conversation proceeded, the woman changed the topic by asking the man a question about how to operate the BBS. After this switch of topic, the conversation then became full of technical information. Therefore, (4a) and (4b) were separated from a continuous conversation, with (4a) being classified as an emotion-oriented topic and (4b) being classified an information-oriented topic.

By categorizing chats into sub-chats according to conversational content, we obtained a total of 283 sub-chats out of 189 chats. We then counted the total number of occurrences of PICE in our data; in this calculation, every sentence was considered a separate unit, and the presence of a space was considered to mark the end of a sentence. For example, in (5), a turn was determined to consist of three units by counting the

spaces occurring in the original BBS text. Within these three units, there was one instance of code switching, one utterance-final particle, and one facial emoticon.

- (5) F37: 我 交 了 清交 的
 wo jiao le cingjiao de
 I submit Asp PN Mod
 現在 政大 台大 paper 也 拿 去 印 了
 sianzai jhengda taida paper ye na cyu yin le
 now PN PN paper (in English) also take to print Asp
 一 段落 囉 ^^
 yi duanluo lo ^^
 one period UFP <smiling emoticon>
 ‘I’ve submitted (papers) to National Tsing Hua University and
 National Chiao Tung University. Now papers for National Cheng Chi
 University and for National Taiwan University are also in print.’

A two-way Analysis of Variance (ANOVA) was performed to determine the relationship between the occurrence frequency of PICE and the variables of gender configuration and topic orientation. After the ANOVA demonstrated the significance of the effects of both variables, we performed a Scheffe’s post-hoc pair-wise comparison to determine the source of the effect.

4. Results

The effects of gender configuration and topic orientation on PICE are summarized in Table 3.

Table 3: Effects of Gender Configuration (GC) and Topic Orientation (TO) on production of PICE in discourse

Type	Source	df	Mean square	F	Sig.	
Utterance-final particles	GC	2	.765	8.960	.000	***
	TO	1	.0005	.007	.935	
	GC * TO	2	.016	.191	.826	
	Error	277	.085			

Intensifiers	GC	2	.024	5.941	.003	**
	TO	1	.014	3.365	.068	
	GC * TO	2	.0002	.060	.942	
	Error	277	.004			
Code switching	GC	2	13.174	4.050	.018	
	TO	1	5.970	1.835	.177	
	GC * TO	2	19.383	5.958	.003	**
	Error	277	3.253			
Happy Facial-expression Emoticons	GC	2	25.556	1.548	.215	
	TO	1	72.708	.558	.037	*
	GC * TO	2	9.209	4.403	.573	
	Error	277	16.513			
Embarrassed Facial-expression Emoticons	GC	2	17.452	6.036	.003	**
	TO	1	.139	.048	.827	
	GC * TO	2	.161	.056	.946	
	Error	277	2.891			

* $p < .05$ ** $p < .01$ *** $p < .005$

As illustrated in Table 3, significant effects were found with respect to: (a) gender configuration in the use of utterance-final particles, intensifiers, and emoticons of embarrassment; (b) topic orientation in the use of happiness emoticons, and (c) gender-by-topic interaction in the use of code switching. The following sections will discuss these findings in detail.

4.1 Utterance-final particles and intensifiers

Overall, women used more utterance-final particles (UFPs) and intensifiers than men did (see Table 4 below). However, we also found an interaction between gender configuration and particle/intensifier use. Women used fewer UFPs and intensifiers when they talked to men than when they talked to women. Interestingly, men used more utterance-final particles and intensifiers when they talked to women than when they talked to other men. The difference between MF conversation and MM conversation was significant (Scheffe's post hoc comparison, $p < .01$, both for UFP and intensifiers). However, the difference between FF conversation and MF conversation was not significant (Scheffe's post hoc comparison, $p = .087$ for UFP and $p = .994$ for intensifiers).

Table 4: Mean frequency and SD of occurrence per sentence of utterance-final particles and intensifiers across gender configurations

Language usages	GC	Mean frequency/sentence	SD
Utterance-final particles	Female/Female	.6097	.3360
	Male/Female	.5200	.2442
	Male/Male	.3769	.3377
Intensifiers	Female/Female	.0524	.0634
	Male/Female	.0514	.0699
	Male/Male	.0150	.0421

An additional t-test was performed to determine which gender contributed more utterance-final particles and intensifiers in MF conversations, the results of which indicated that the difference between men's and women's overall production of utterance-final particles and intensifiers was not significant (for UFP, difference=.006, $t(150)=.359$, $p=.720$; for intensifiers, difference=0.003, $t(150)=.718$, $p=.474$). This suggests that in cross-gender conversations, men and women accommodate one another in their use of utterance-final particles and intensifiers.⁹

4.2 Code switching

The relative frequency of code switching across gender configurations and topic orientations is summarized in Table 5. First, the use of code switching was highest overall in MM information-oriented conversations (mean frequency per utterance = 2.6400, SD = 2.9280), followed by FF emotion-oriented conversations (mean frequency = 1.5254, SD=2.2618). The least code switching was found in MF information-oriented conversations (mean frequency = .8200, SD=1.0437).

Table 5: Mean frequency and SD of occurrence per sentence of code switching across gender configurations and topic orientations

Gender configuration	Topic orientation	Mean freq./sentence	SD
Female/Female	Information-oriented	1.4286	1.5991
	Emotion-oriented	1.5254	2.2618
	Total	1.5000	2.0988

⁹ As previously presented in Table 3, neither the factor of topic orientation nor the gender-by-topic interaction caused significant significance on the use of utterance-final particles and intensifiers. Therefore, the effect of topic orientation was not discussed in this subsection.

Male/Female	Information-oriented	.8200	1.0437
	Emotion-oriented	1.2772	1.5108
	Total	1.1258	1.3871
Male/Male	Information-oriented	2.6400	2.9280
	Emotion-oriented	1.0741	1.5915
	Total	1.8269	2.4392

An additional ANOVA demonstrated that the interaction between gender configuration and topic orientation was significant for production of code switching ($F(2, 277)=5.958$, $MSE=3.253$, $p<.05$). The results of a Scheffe's post-hoc pair-wise comparison between FF and MF conversations was significant, but the difference between MM and MF conversations was not significant (Scheffe's post hoc comparison, $p<.05$ and Scheffe's post hoc comparison, $p=.964$, respectively). In calculating the number of code switches performed by men and women in MF conversations, we found that men and women code switched at approximately the same level of frequency when participating in MF conversations (difference=.002, $t(150)=.575$, $p=.566$).

4.3 Emoticons

Table 6 shows that men produced more emoticons of embarrassment in MF conversations than they did in MM conversations. Similarly, compared with FF conversations, women also had significant increase in the use of emoticons of embarrassment in mixed-gender (MF) conversations ($F(1, 277)=17.452$, $MSE=2.891$, $p<.01$). Furthermore, the results of a two-way ANOVA revealed a main effect of topic orientation on the production of happiness emoticons ($F(1, 277)=4.403$, $MSE=16.513$, $p<.05$); the number of happy-face emoticons produced in emotion-oriented conversations was significantly higher than those produced in information-oriented discussions. These results are summarized in Table 6 below:

Table 6: Mean frequency and SD of occurrence per sentence of embarrassment emoticons across gender configurations and that of happiness emoticons across topic orientations

Emoticons	GC/TO		Mean freq./sentence	SD
Embarrassment emoticons	Gender configuration	Female/Female	.3125	.6861
		Male/Female	1.0265	2.1755
		Male/Male	.2692	1.0312
Happiness emoticons	Topic orientation	Information-oriented	1.3750	2.6167
		Emotion-oriented	2.9198	4.6350

In addition to emoticons expressing happiness, we also subcategorized the emoticons according to emoticon configuration, such as emoticons with/without mouth, with/without wide eyes. However, our sub-categorizations, as outlined in Table 7 below, failed to show statistical significance:

Table 7: Effects of Gender Configuration (GC) and Topic Orientation (TO) on the configuration of emoticons

Configuration of emoticons	Source	df	Mean square	F	Sig.
Emoticon with mouth	GC	2	4.648	.658	.519
	TO	1	11.565	1.637	.202
	GC * TO	2	3.042	.431	.650
	Error	277	7.063		
Emoticon without mouth	GC	2	31.121	2.191	.114
	TO	1	32.650	2.298	.131
	GC * TO	2	8.878	.625	.536
	Error	277	14.206		
Emoticon with @@ wide eyes	GC	2	3.567	2.110	.123
	TO	1	.329	.194	.660
	GC * TO	2	.192	.114	.893
	Error	277	1.691		
Emoticon without @@ wide eyes	GC	2	40.744	1.732	.179
	TO	1	72.137	3.067	.081
	GC * TO	2	40.744	.766	.466
	Error	277	23.518		
Anger emoticon	GC	2	.784	.374	.688
	TO	1	2.779E-02	.013	.908
	GC * TO	2	2.519	1.203	.302
	Error	277	2.093		

The occurrence of the anger emoticon was too infrequent to be subjected to statistical analysis. We can conclude from our data that emoticons expressing embarrassment and happiness have significant gender- and topic-related effects; the former interacts with gender configuration, and the latter interacts with topic orientation. According to the Suggested Upper Merged Ontology database (<http://bow.sinica.edu.tw>), an ontologically-based representation of concepts, the emotions of happiness and embarrassment are two of the most basic and common categories of human emotional expression. Given the frequent occurrence of these two types of emoticons in our data, we posit that the frequency of the happiness and embarrassment emoticons reflects that of the expression of those emotions in real interactions.

5. Discussion

In this section, we shall interpret the patterns found in our data with respect to the difference model, the dominance model, and the postmodern paradigm.

5.1 Difference model

Tannen's (1990) difference model posits that linguistic patterns differ between men and women because the two genders represent two different subcultures, which employ different interactional strategies. Although Tannen's proposals focus primarily on discourse patterns, they can be extended to interpret gender differences in the use of grammatical forms. Many studies have been conducted using the difference model to analyze gender differences in grammatical forms. These studies have demonstrated that gender-based preference for linguistic forms begins to emerge in childhood (Cheshire 1998, Eisikovits 1998).

Our results also show a gender-based difference in the use of grammatical forms: women use more utterance-final particles and intensifiers in Mandarin BBS conversations than men do, for all the gender configurations and topic orientations investigated. Our results with respect to the production of utterance-final particles and intensifiers argue for difference model. Furthermore, the use of utterance-final particles and intensifiers is better reflected by the difference model than the dominance model, as we argue in the following arguments:

1. In MF conversations, the use of UFPs and intensifiers exhibit no significant cross-gender differences. Comparison of their frequency in cross-gender conversations showed no significant difference between men's and women's overall production of utterance-final particles and intensifiers in MF conversations, despite significant differences in overall frequency between FF and MM configurations. This finding suggests that there is no power imbalance involved in MF conversations involving the use of UFPs and intensifiers, and highlights the importance of examining cross-gender conversations when investigating possible interaction between the difference model and the dominance model.

2. Since UFPs have many pragmatic uses, the higher frequency of utterance-final particles in FF conversations might not necessarily be an indicator of lower status. For example, Okamoto (1995) found that Japanese women use more sentence-final particles to soften a sentence. The greater usage of utilizing particles among Japanese women, however, does not necessarily indicate their lower social status, since discourse particles

can perform various functions (Okamoto 1995).¹⁰ We observe that liberal use of Mandarin discourse particles creates an effeminate impression, which softens the tone of speakers. But these Mandarin particles, similar to Japanese, also serve various functions which might not be related to the gender power imbalance. For example, in example (6) below, the utterance final particle *lei* 勒 is not a typical question particle, and it has many other functions, such as expressing surprise, agreement, or disagreement. In (6), the UFP *lei* 勒 has a question function, but also conveys a more intimate tone than the more neutral question particle *ne* 呢 would have done. The use of UFP *lei* 勒 is multifunctional, so there is no clear one-to-one relationship between this particular form and power structure.

- (6) F15: 啊 對 了... 我們 的 日本 計畫 勒?
 a duei le... women de rihben jihua lei?
 HV right Asp our Mod Japan plan **UFP**
 ‘Oh, yes... How about our plan to go to Japan?’

Furthermore, similar to utterance-final particles, intensifiers in Mandarin can be used in sentences with multiple functions (i.e. inquiry, topic initiation, and comment). We find that the essential difference between women and men in the use of intensifiers lies in their quantity, not their functional distributions.¹¹

The arguments above suggest that the difference model can best explain the higher percentage of utterance-final particles and intensifiers in FF conversations.

5.2 The dominance model

This section discusses gender differences in the use of code switching in BBS discourse and interprets them in terms of the dominance model. The results indicate a significant effect of both gender configuration and topic orientation on code switching ($F(2, 277)=5.958, p<.01$).

Our data support the power structure proposed by Lakoff (1975); this was best demonstrated by code switching within MM conversations. Code switching often relates to the social prestige of a language; in this way, it reflects the power structure within a society (Myers-Scotton 1997, Huang 1993). Using a “high language” (Fasold 1984) conveys the speaker’s authority and identifies the speaker with a higher social

¹⁰ For a more detailed discussion, see Eckert & McConnell-Ginet (2003).

¹¹ Due to space limitations, the current study cannot provide a full account of the interaction between the use of utterance-final particles and intensifiers and their pragmatic functions. This topic is currently the focus of a separate investigation.

class. In contrast, using a lower language weakens the speaker's authority, while nevertheless having the advantage of increasing ethnic identification between the speaker and the addressee.

Early research attributed gender differences in levels of code switching to women assigning more value to the "high language" more than men do (Fasold 1990, Foster 1995, Gal 1978, 1979, Huang 1993, Jan 2003). However, our data indicate that men code switch more often than women do when discussing information-oriented topics, preferring to code switch between Mandarin and English. Men's code switching could be related to the fact that English is considered to be a language with higher status than Mandarin in Taiwan. Chiang's (1996) proposed system of double-nested diglossia in Taiwan (given in Figure 1) can be extended to interpret this phenomenon.¹²

h	English	H
l	Mandarin	
h	Taiwanese Southern Min	L
l	Hakka and Austronesian languages	

Figure 1: Double-Nested diglossia in Taiwan (Chiang 1996:63)

In Figure 1, English and Mandarin are both "high" languages, while Taiwanese Southern Min and others fall into the "low" language group. Between the two high languages, English is higher than Mandarin.¹³ Among the low languages, Taiwanese is considered the highest language of the low languages.¹⁴ In our data, Mandarin/English code switching was not observed in FF conversations. We interpret this to mean that

¹² A society has a double-nested diglossic system when each of the high and the low languages can be further divided into a binary system (Fasold 1984:46). That is, both the high language and the low language are divided into a sub-high and a sub-low language.

¹³ Learning English has become increasingly popular in Taiwan; English cram schools have mushroomed over the past five years. The Taiwan government has also started teaching English in elementary school. Moreover, many parents push their children into bilingual kindergartens so that their children can learn English even earlier. However, English has not replaced Mandarin as Taiwan's official language, nor has it become the language people use in daily conversation. Mandarin is still used in formal situations such as schools, major public media, and conferences. Even so, English is considered to be more prestigious than Mandarin in general in Taiwan society. For details that argue for English superiority, see Chiang, Visceglia & Lin (2005).

¹⁴ Languages used in informal situations include Taiwanese Southern Min, Hakka, and Formosan languages. Among these dialects, Taiwanese has a far larger number of speakers than Hakka. The rest of the languages belong to the Austronesian language family; these are spoken by a small minority of the Taiwanese population.

awareness of the power structure is stronger in MM conversations than in both MF and FF conversations. Men switched to English because they wanted to demonstrate their mastery of the prestige language; they were often unaware that the mixed communication resulted in the production of ungrammatical sentences due to their limited English proficiency. The conversation in (7) below is taken from an information-oriented MM conversation, which represents the most frequent code-switching pattern found in our data:

- (7) M11: 上次 劃位 沒 叫到 你的 名字
 shangcih huawei mei jiaodao nide mingzih
 last_time registration Neg call your name
 ‘Last time during registration, your name was not on the list.’
- M12: 哪 一 科?
 na yi ke?
 which one course
 ‘Which course are you talking about?’
- M11: all.
all.
 all (written in English orthography)
 ‘All.’
- M12: all? 可能 我 沒 去 報 吧~~
all? keneng wo mei cyu bao ba~~
 all? (in English) probably I Neg go register UFP
 是 春季 班 嗎~
 shih chuenji ban ma~
 is spring class Que
 ‘All? Probably I didn’t register. Was that the spring class?’
- M11: yes 春季 班
yes chuenji ban
 yes (written in English orthography) spring class
 ‘Yes. Spring class.’
- M12: 靠~~ 也 沒人 打電話 給 我 喔~
 kao~~ ye meiren dadianhua gei wo o~
 shit also nobody call_on_the_phone to me UFP
 ‘Shit. And nobody called (to inform me about the registration for the spring class).’

Example (7) is a chat that exchanges information about classes. The two men used Mandarin in the beginning of the chat, and then began code-switching between Mandarin and English. Such code switching was not necessary, because the conversation did not involve proper names or jargon. Moreover, code switching on a BBS requires additional keyboard shifts back and forth between Chinese and English typing systems. Nevertheless, men seem to enjoy Mandarin/English code switching enough to perform those steps, particularly in MM conversations. We interpret these code switches as indicators of men's desire to display their own power in MM conversations.

5.3 The postmodern paradigm

We tested the ability of the postmodern paradigm to account for the full range of our data by examining the interaction between the frequency of individual language usage and the pragmatic intent of the sentences in which they occurred across gender configuration and topic orientation. Evidence in support of the postmodern paradigm can be summarized in terms of the following two observations:

1. Cross-gender conversations exhibit two-way accommodations.

Postmodern theory (Hall & Bucholtz 1995) regards gender as a constantly shifting category. We believe that the gender-based accommodations present in our PICE distribution demonstrate that men and women employ PICE to negotiate their gender identity as discourse unfolds. Our data show that the percentage of the occurrence of PICE produced by both men and women fluctuates across gender configurations. They also reveal accommodations present in single- and mixed-gender conversations, as shown in the following three phenomena (a)-(c):

(a) The percentage of utterance-final particles and intensifiers per sentence is smallest in MM conversations and largest in FF conversations. In cross-gender conversations, men increase their production of utterance-final particles and intensifiers per sentence, while women slightly decrease their production.

(b) Code switching in MF conversations is much less frequent than it is in MM and FF configurations. Since men and women both decrease per-sentence code switching in mixed-gender conversations, it shows that code switching is influenced by the interaction of both gender configuration and topic orientation.

(c) Embarrassment emoticons fluctuate in accordance with gender configuration. In single-gender conversations, women use more embarrassment emoticons than men do. In cross-gender conversations, however, men and women both increase their use of embarrassment emoticons.

On our interpretation, same-gender chats reflect default values, the most natural conversation style. Mixed-gender chats, in contrast, stimulate a greater accommodation process, which adjusts the use of PICE. Thus, the uses of PICE reveal the constantly shifting categories flowing between genders in different types of discourse. For example, the emoticons for embarrassment and happiness were used significantly more in MF conversations than they were in MM and FF conversations. We hypothesize that BBS facial expressions play a more important role in cross-gender conversations than they do in same-gender conversations, assuming a courtship function, and that BBS conversations mirror the increased use of emoticons found in cross-gender face-to-face interactions. We believe that men and women invest more energy in creating a favorable impression in interactions with the opposite sex. In cross-gender communication, they pay more attention to mitigating possible conflicts between the addressee and themselves, so that the use of embarrassment emoticons increases greatly for both genders.

Gender accommodation in communicative strategies has also been observed in Smith-Lovin, Skvoretz & Hudson (1986), which found that during group discussions in college, gender participation proportions varied according to whether subjects were in a same-gender or a mixed-gender group. Similar accommodations were observed in Bilous & Krauss (1988), in a study comparing the length of long pauses across gender configurations. Although the length of long pauses was shorter in FF conversations than in MM conversations, in MF conversations, men's pause length was shorter than women's. Our data suggest that in addition to gender accommodations, adjustments are also made on the basis of topic orientation.

2. Emoticons were found to have multiple functions.

Postmodern theory posits that the language used in discourse is continuously in flux, and that there is not necessarily a one-to-one correspondence between form and meaning. Specifically, a linguistic form does not have a fixed meaning, and can continuously shift and generate multiple functions within and across discourse contexts. Our data reveal that both embarrassment and happiness emoticons are used for a wide range of pragmatic intentions.¹⁵ The various functions of the embarrassment emoticon include expressing embarrassment, softening expression of disagreement, and defusing a potentially embarrassing situation for a conversation partner. Among the many functions, the smile emoticon can be used to express embarrassment, happiness, to soften a harsh statement, or to mitigate an awkward situation. These phenomena show that there is no one-to-one correspondence between the form and the pragmatic intent of either an embarrassment or a happiness emoticon. We claim that these non-one-to-one

¹⁵ For examples of each category, see Appendix II.

correspondences between the forms and functions in the emoticons parallel theories regarding facial expression in real conversation. Cole (1999) outlines three theories of the relationship between facial expressions and emotions: (a) the Aristotelian theory, (b) the Darwinian theory, and (c) the Fridlundian theory. In the Aristotelian view, facial expressions reveal internal emotional states. In the Darwinian view, facial expressions are genetically determined. Based on the facial displays he found in humans, which are shared by other mammals, Darwin concluded that facial displays are derived from a primitive use of the face. Fridlund developed the facial feedback hypothesis, according to which facial expressions do not necessarily reflect inner emotions, but instead function as a tool for social interaction.

We propose that the Fridlundian theory best explains our findings with respect to the use of emoticons. That is, parallels can be drawn between the Fridlundian theory and postmodern theories of gender interaction, in the sense that emoticons have multiple functions, which shift with social context.

6. Conclusion

We propose that the difference, dominance, and postmodern models must be separately used in order to account for the full range of our observations. Our findings with respect to overall discrepancies in the number of final particles used by men and women support the difference model. The findings used to argue against the dominance model are based on the following two observations. (1) While use of UFPs and intensifiers exhibits significant differences between FF and MM conversations, there is no significant cross-gender difference in use in MF conversations. (2) UFPs and intensifiers have many pragmatic uses, so that their occurrence is not necessarily an indicator of lower status. The dominance model best explains the higher percentage of Mandarin-English code-switching in MM information-oriented conversation. We interpret this result to indicate that men are most likely to demonstrate their authority by using the prestige language (English) when participating in an information-oriented conversation with another man. The postmodern paradigm best explains the differences in accommodation strategies found in same-gender and cross-gender conversations, which occur consistently across all four types of PICE in our data. The postmodern paradigm can also explain the multi-functional uses of emoticons. The uses of embarrassment and happiness emoticons are not confined to a one-to-one correspondence between form and function, thus supporting Fridlundian theory that the use of facial expressions is not necessarily reflective of an internal emotional state, but subject to social variation.

Furthermore, the interaction found between gender configuration and each of the discourse factors examined underscores the importance of investigating both single-

gender and cross-gender conversations. Many previous studies have been based solely on either single-gender or cross-gender conversations. Our study shows that comparison of discourse across gender configurations provides a broader perspective for testing models of gender-specific linguistic behavior.

Our BBS data represent a valuable resource for investigating gender differences in conversation, as they provide a stable written database while still preserving the characteristics of spoken language. In future research, we intend to test the three models by extending our research to data collected from online chats conducted using ICQ, MSN Messenger, and group chat rooms. Finally, we plan to compare the conversations between acquaintances used in this study with Internet conversations between strangers. Many research questions on the relationship between gender and discourse can be investigated using various forms of Internet conversation, and future research should compare these interactions with face-to-face conversations.

Appendix I: Glossary of Abbreviations

Asp	Aspect marker	CL	Classifier
FF	Female/Female conversation	HV	Hesitated vocalization
MM	Male/Male conversation	MF	Male/Female conversation
Mod	Modifier	Neg	Negation word
PN	Proper noun	Que	Question word
UFP	Utterance-final particle		

Appendix II: Pragmatic Intentions Represented by Embarrassment and Happiness Emoticons

(a) Embarrassment emoticon expressing embarrassment

F53: 這個... 我 不 知道 ^^;;
 jhege... wo bu jhihdao ^^;;
 this... I Neg know <embarrassment emoticon>
 ‘This... I don’t know.’

(b) Embarrassment emoticon expressing disagreement

F26: 嘿嘿 心術 不 正
 heihei.... sinshu bu jheng
 (laughter) intention Neg upright
 ‘You have wicked intentions.’

M38: 哪有.. 我 可 是 血氣方剛 的
 nayou.. wo ke shih siecifanggang de
 what I fit am with_courage_and_impluse Mod
 年輕 男人
 niancing nanren
 young man
 ‘What? I am a courageous and impetuous young man.’

F26: =.= 是 嗎????
 =.= shih ma????
 <embarrassment emoticon> yes Que
 ‘Yeah?’

(c) Embarrassment emoticon defusing an embarrassing situation

M04: 不然 就 把 高中 的 拿 出來 唸
 buran jiou ba gaojhong de na chulai nian
 otherwise then BA highschool Mod take out study

也 可以 啊
 ye keyi a
 also passable UFP
 ‘Otherwise, you can take out your high school textbooks.’

M04: 你 可以 先 從 basic 開始
 ni keyi sian cong basic kaishih
 you can first from basic (in English) start
 ‘You can start with the basics.’

M06: 喔喔 早就 丟 了
 ohoh zaojiou diou le
 ohoh already throw Asp
 ‘Ohoh... I’ve already thrown them away.’

M04: ^^|||... 那 我的 借 你 好 了
 ^^|||... na ... wode jie ni hao le...
 <embarrassment emoticon> then mine lend you fine Asp
 ‘Then, I’ll lend you mine.’

(d) Smiling emoticon expressing embarrassment

F01: 跟 你 說 喔...
 gen ni shuo o...
 to you say UFP
 我 才 起床 不 久... :P
 wo cai cichuang bu jiou... :P
 I just get_up not long <smiling emoticon>
 ‘You know... I just got out of bed.’

F07: 了不起~~~
 liaobuci~~~
 amazing
 ‘Amazing.’

F01: 呵呵 星期天 嘛 難得 給 自己 休息 一下
 hehe singcitian ma nande gei zihji siousi yisia
 laughter Sunday UFP rarely allow self relax a_while
 ‘(laughter)... It’s Sunday. I rarely allow myself to relax.’

(e) Smiling emoticon softening a teasing insult

- F56: 只 可惜 還是
 jhih kesi haishih
 only pity still
 孤芳自賞 嚕
 gufangzihshang lu
 a_solitary_flower_in_love_with_its_own_fragrance UFP
 ‘But it’s a pity that I’m still single.’
- M04: 孤芳自賞...
 gufangzihshang...
 a_solitary_flower_in_love_with_its_own_fragrance
 該 不會 妳...
 gai buhuei ni...
 suppose not you
 是 恐龍 吧... 哇哈哈~~~~~ :p
 shih konglong ba... wahaha~~~~~ :p
 be dinosaur UFP (laughter) <smiling emoticon>
 ‘You are still single? I suppose you are as ugly as a dinosaur. (laughter)...’

(f) Smiling emoticon expressing happiness

- F56: 呵呵~~~ 你 今天 吃 的 粽子 一定 是
 hehe~~~ ni jintian chih de zongzih yiding shih
 laughter you today eat Mod zongzi must be
 甜 的 ^^
 tian de ^^
 sweet Mod <smiling emoticon>
 ‘You must have eaten some sweet zongzi today (to be in such a good mood).’

(g) Smiling emoticon mitigating the awkwardness of a request

- M04: 嘻嘻... 可以 借 給 我 看看 嗎.. ^^
 sisi... keyi jie gei wo kankan ma.. ^^
 laughter may send to me look Que <smiling emoticon>
 ‘(laughter). Could you send it to me so that I can take a look?’

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[Received 27 March 2006; revised 4 October 2006; accepted 18 October 2006]

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PICE：四種台灣 BBS 對談中的策略及其 與性別結構和話題導向的交互影響

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性別與言談間的關係是過去十年來豐富研究中的重要焦點。關於性別言談的理論主要基於三個模型：(a) 支配模型，(b) 相異模型，(c) 後現代模式。本研究使用這三個模型來解釋從台灣 BBS 站上蒐集到的 189 份對話。本文旨在探討性別結構（單一性別相對於跨性別）與話題導向（資訊交流相對於情感交流）如何影響中文 BBS 對話中的四種特殊策略：分別為語尾助詞 (P)，加強語氣 (I)，語碼轉換 (C)，及表情符號 (E)，統稱為 PICE。研究結果顯示以下有顯著的關聯：(a) 性別結構與語尾助詞、加強語氣、及尷尬表情符號的使用，(b) 話題導向與快樂表情符號的使用。結果也顯示性別與話題間的交互作用影響語碼轉換的使用。本文除描述以上三個性別言談模型如何解釋性別結構、話題導向，與 PICE 之間的交互影響，亦證明利用單性別與跨性別資料之間的比較來研究以性別為基礎的溝通模式之重要性。

關鍵詞：PICE，性別結構，話題導向，BBS 溝通，性別言談理論，華語，台灣