

Selection of ICT in emotional communication for Japanese students: focusing on emotional strategies and gender differences

Seleção de ICT na comunicação emocional para estudantes japoneses: focando as estratégias emocionais e diferenças de gêneros

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Artigo recebido em 11/08/2008
Artigo aprovado em 13/12/2008

Abstract

This paper describes the selection of media in emotional communications by Japanese college students, especially as they reveal gender differences. Sad and joy situations were prepared and participants could select from face-to-face (F2F), telephone, mobile phone email, PC email and letter as the means of communication. Familiarity with the recipient was used as a factor of communication. The main findings were the followings in the ICT (Information and Communications Technology) area. To a familiar partner, participants tended to choose media based on a quick reply, sharing joy or sympathy at the time of communication. These decisions can be regarded as the emotional strategy in media selection. Participants wanted to convey their emotion to a familiar partner as soon as possible and as accurately as possible. On the other hand, it seemed that sharing of emotions was not desired to an unfamiliar recipient.

Keywords: emotional communication, emotional strategy, emotional transmission, gender difference, selection of ICT.

Resumo

Este artigo descreve a seleção de mídia nas comunicações emocionais por estudantes universitários japoneses, especialmente como eles revelam diferenças de gêneros. Situações agradáveis e desagradáveis foram preparadas e os participantes puderam selecionar: face-a-face (F2F), telefone, e-mail de celular, e-mail de PC e carta como meios de comunicação. Alguns resultados são apontados no campo do ICT (Information and Communications Technology). A familiaridade com os receptores foi usada como um fator de comunicação. Para as pessoas familiarizadas, os participantes tenderam escolher a mídia baseada na rapidez da réplica compartilhando alegrias ou simpatia no momento da comunicação. Tais decisões podem ser vistas como uma estratégia emocional na seleção da mídia. Participantes quiseram expor suas emoções para as pessoas familiarizadas o quanto antes e o mais zelosamente possível. De outro lado, pareceu que repartir emoções não foi algo desejado em relação as receptores não familiarizados.

Palavras-chave: Comunicação emocional, estratégia emocional, transmissão emocional, diferença de gênero, seleção de ICT, tecnologias da comunicação e informação.

1. Introduction

1.1. Background

In recent years, the importance of having support for students' emotional aspects in learning environments using electronic media is pointed out (BEN-AMI & MIODUSER, 2004, KANG, KIM, & PARK, 2007). Our

previous research on the emotional aspects of computer-mediated communication (CMC) showed that the transmission of positive emotions tended to be more successful than the transmission of negative emotions (e.g., KATO, KATO, & AKAHORI, 2007, KATO, KATO, & Scott, 2007, see Figure 1). These findings are based on analysis which focused on the media characteristics

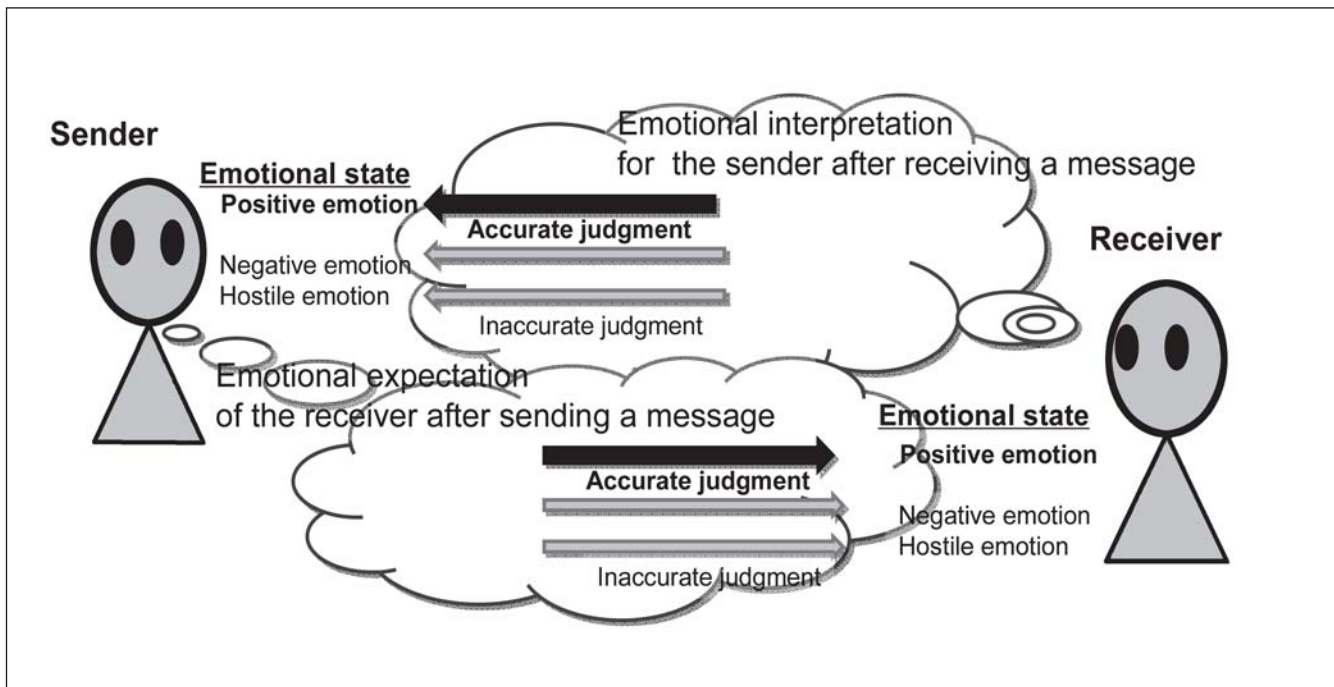


Figure 1: Findings from our previous studies about emotional transmission in CMC.

of CMC. However, the authors wondered whether the intention on the side of the sender could also be one factor of these findings (e.g., when the sender has a positive emotion, the desire of wanting to share the same emotion with the partner is felt more strongly than the sharing of negative emotions). Since the contents of a message and the media selected may change with the intentions of the sender, it is thought that emotion transmission of positive emotion and negative emotion will be affected by it as well. This research focused on the sender of email messages to better understand this relationship.

This research conducted experiments which focused on selection of media in emotional communication and the emotional strategy used in those communications. This research defined the emotional strategy as follows: 1) How do you convey the emotion you experience to your partner? 2) What kind of emotion do you want your partner to experience? 3) How is your own emotion conducted? There are various media in our surroundings and it is also considered to be one of the emotional strategies in communication which media to be chosen.

1.2. Objectives

Various media have those peculiar characteristics (e.g., SHORT, WILLIAMS, & CHRISTIE, 1976). First, in the media selection for communication, we investigated whether emotional strategies are actually used. Then, we studied the relationship between emotional transmission and media selection. From this analysis, the emotional strategies in media selection are considered.

2. Method

2.1. Participants and procedure

Participants were 80 college students (53 males, 26 females and one non-answer, 18.8 years old of average age.) A paper-based survey was given to the participants. 16 scenarios were prepared which described mobile email messages each containing unique emotional content. Mobile phone email messages were selected because current college students in Japan use cell phone email as their primary mode of informal communication (ITO, OKABE, & MATSUDA, 2005, Ministry of Internal Affairs and Communications, 2006). These 16 situations contained four basic

emotions (i.e. sad, joy, anger and guilt) x two partner's roles (i.e. classmate and teacher) x two degrees of familiarity with these partners (i.e. familiar and unfamiliar.) Participants were asked to reply to the various prepared emotional messages based on the role of the sender and their degree of familiarity with the sender. The media selections for the response were face-to-face (F2F), mobile phone email, PC email, telephone, and letter. The partner was asked about the degree of which his or her emotion is transmitted, and the degree to which actually uses meeting and each media in a reply to each medium. When each medium was used, "degree from which your emotion is transmitted to a partner" and "degree for which you actually use F2F and each media in a reply" were asked to the participants (five point scale: 1 disagree strongly – 5 agree strongly). Moreover, the reason was also asked in an open answer format.

This paper only presents results from a subset of the original 16 permutations: Two emotional messages sent by one kind of partner. Specifically, only sad situations (representing negative emotions) and joyful situations (representing positive emotions), and only sent by a fellow classmate were analyzed. As a result of this narrowing, the target of this analysis is 67 persons (44 males (average age: 18.9, SD 1.5, range 18-27), 23 females (average age: 19.0, SD 1.9, range 18-26).)

2.2. An analytic viewpoint

Based on the data of each situation (a recipient was familiar or unfamiliar) of sad emotion and joy emotion, it analyzed in the following two viewpoints.

1. The category classification of the reason for selection of the media in the case of a reply obtained by free descriptive data is carried out, and media selection is actually performed for what kind of reason, or the tendency was summarized. Emotional strategies of media selection ("How do you convey the emotion you experience to your partner?", "What kind of emotion do you want a partner to experience?" and "How is your own emotion conducted?") were investigated.
2. The relation between emotion transmission and media selection was investigated from the data of the five point scale about the degree of emotional transmission to a partner and the degree to which actually uses each media in a reply.

3. Results and Discussion

3.1. Reasons of use or not use

The reasons for selection of the media in the case of a reply which are the free descriptive data obtained from the participants were classified into the categories. The result of a category classification is shown in Table 1.

Except for the familiar partner, “mobile email received” was the most common reason for the use of mobile phone email at the time of receiving joyful communication. For the familiar partner, the most common reason was “quick response.” The most common reasons for not being concerned with the partner’s familiarity but using a telephone were “quick

Table 1: Category classification of free comments about reasons of use or not use

Situations		Media				
Emotional states	Partner (Familiar / Not familiar)	F2F	PC email	Mobile email	Telephone	Letter
Sad	Familiar	I want to talk at meeting (4) Truth is transmitted (4) <hr/> Trouble (1)	Late (1)	Mobile email received (20) Fast (10) It is used (3) It is sad content (1) Pictorial symbols can be used (1) Immediately (1)	Fast (15) Truth is transmitted (3) I want to talk (2) I want to hear a friend’s voice (1) I want to consult (1)	Late (2) Stamp cost (1)
	Not Familiar	Emotion is transmitted (1) I want to check whether it is truth (1) I do not want to tell against emotion (1) <hr/> Awkward (6) I don’t want to meet (5) Trouble (1)	I do not want to tell against emotion (1)	Mobile email received (10) Immediately (9) Fast (4) It is easy to talk (2) I do not want told (1)	Fast (5) I want to talk (1) I want to consult (1) Only business is Polite (1) <hr/> It is hard to talk (7) Telephone charges (1)	Stamp cost (1)
Joy	Familiar	Emotion is transmitted (8) Familiar (4) I want to talk at meeting (2) Fast (2)		Fast (15) Mobile email received (8) Familiar (2) Emotion is transmitted (1) It remains in record (1) Meeting is troublesome to a partner (1) <hr/> It is not used (1) Emotion is not transmitted (1)	Fast (19) Emotion is transmitted (11) I want to talk (6) Familiar (2) Meeting is troublesome to a partner (1) Courtesy (1)	
	Not Familiar	It may be able to become intimate (1) <hr/> Not familiar (3) I don’t want to meet (1)	It may be able to become intimate (1) Not familiar (1)	Mobile email received (11) Not familiar (11) Only business is told (9) Fast (2) It may be able to become intimate (1) Only check (1) Meeting is troublesome to a partner (1) Trouble (1)	Fast (5) Only business is told (4) It is joy content (1) It may be able to become intimate (1) I want to talk (1) Emotion is transmitted (1) Meeting is troublesome to a partner (1) <hr/> I will frolic (1)	

The upper row is a reason to be used; the lower row is a reason not to be used. Numerical values in () are the number of replies.

response.” There were many, especially the reasons compared with the time which is not familiar, when a partner was familiar. Moreover, at the time of joy emotion, when a partner was familiar, the 2nd had many reasons of “Emotion is transmitted.” Furthermore, the 3rd had many reasons of “I want to talk.” This also the same reason for meeting a familiar partner at the time of joy emotion. That is, “Emotion is transmitted” was most reasons.

From the result of a category classification, it is thought that students would like to send a reply soon against a familiar partner at the time of joy emotion. It seems that moreover, the student desired sharing of joy, and sympathy with the familiar partner at the time of joy emotion. To a familiar partner, a student is considered to choose media based on an early reply, sharing of joy, and sympathy at the time of joy emotion. These judgments of students can regard as Emotional

Strategy in media selection. Students want to convey his or her emotion to a familiar partner as soon as possible and as correctly as possible. And it seems that they want to sympathize joy with a partner.

3.2. Use of media and emotional transmission

The relation between emotion transmission and media selection was investigated from the data of the five point scale about the degree of emotional transmission to a partner and the degree to which actually uses each media in a reply. In this analysis, the obtained data was divided into male and female, and the gender difference was also examined. Results are shown in Table 2 and Figure 2.

First, the difference of media is described. It seemed that a telephone was used to a familiar partner by both emotion (joy and sad). There was much selection of

Table 2: The comparison between male and female in sad and joy situations

Media		SAD - familiar -									
		Use of media					Emotional transmission				
		F2F	PC email	Mobile email	Tele-phone	Letter	F2F	PC email	Mobile email	Tele phone	Letter
Male (n=44)	Mean	3.34	1.59	4.43	4.05	1.07	4.75	2.27	2.84	4.05	2.34
	SD	1.08	0.82	0.79	1.20	0.34	0.69	0.79	0.75	0.61	1.26
Female (n=23)	Mean	3.00	1.78	4.78	3.83	1.23	4.65	2.39	3.17	4.15	2.61
	SD	1.00	1.09	0.52	1.11	0.61	0.78	0.72	0.89	0.82	0.89
<i>p</i> - value		0.11	0.21	0.03*	0.23	0.09†	0.30	0.27	0.05†	0.27	0.18
SAD - not familiar -											
Male (n=44)	Mean	2.73	1.77	4.23	3.05	1.18	4.48	2.16	2.75	3.95	2.23
	SD	1.11	1.08	1.12	1.51	0.58	0.88	0.83	1.01	0.81	1.22
Female (n=23)	Mean	2.43	1.74	4.74	2.39	1.30	4.13	2.30	3.35	3.70	2.39
	SD	1.08	1.10	0.62	1.27	0.63	1.18	0.93	0.98	1.02	0.94
<i>p</i> - value		0.15	0.45	0.02*	0.04*	0.22	0.09	0.26	0.01*	0.13	0.29
JOY - familiar -											
Male (n=44)	Mean	3.75	1.77	4.18	4.64	1.23	4.75	2.00	3.23	4.39	1.91
	SD	1.26	1.01	1.08	0.65	0.74	0.75	1.01	1.12	0.84	1.20
Female (n=23)	Mean	3.96	1.96	4.39	4.70	1.61	4.70	2.04	3.96	4.78	2.17
	SD	1.07	0.88	1.03	0.56	0.89	0.93	0.88	1.07	0.42	1.11
<i>p</i> - value		0.25	0.23	0.22	0.36	0.03*	0.40	0.43	0.01*	0.02*	0.19
JOY - not familiar -											
Male (n=44)	Mean	3.05	1.89	4.07	3.75	1.34	4.27	1.98	3.02	4.23	1.73
	SD	1.12	1.10	1.30	1.26	0.71	1.09	1.02	1.21	1.01	0.97
Female (n=23)	Mean	3.17	1.91	4.74	3.26	1.70	4.13	2.04	3.83	3.70	2.04
	SD	1.11	1.20	0.86	1.05	0.93	1.22	1.02	0.94	1.22	1.15
<i>p</i> - value		0.33	0.46	0.01*	0.06†	0.04*	0.31	0.40	0.00*	0.03*	0.12

t-test, * $p < 0.05$, † $p < 0.10$

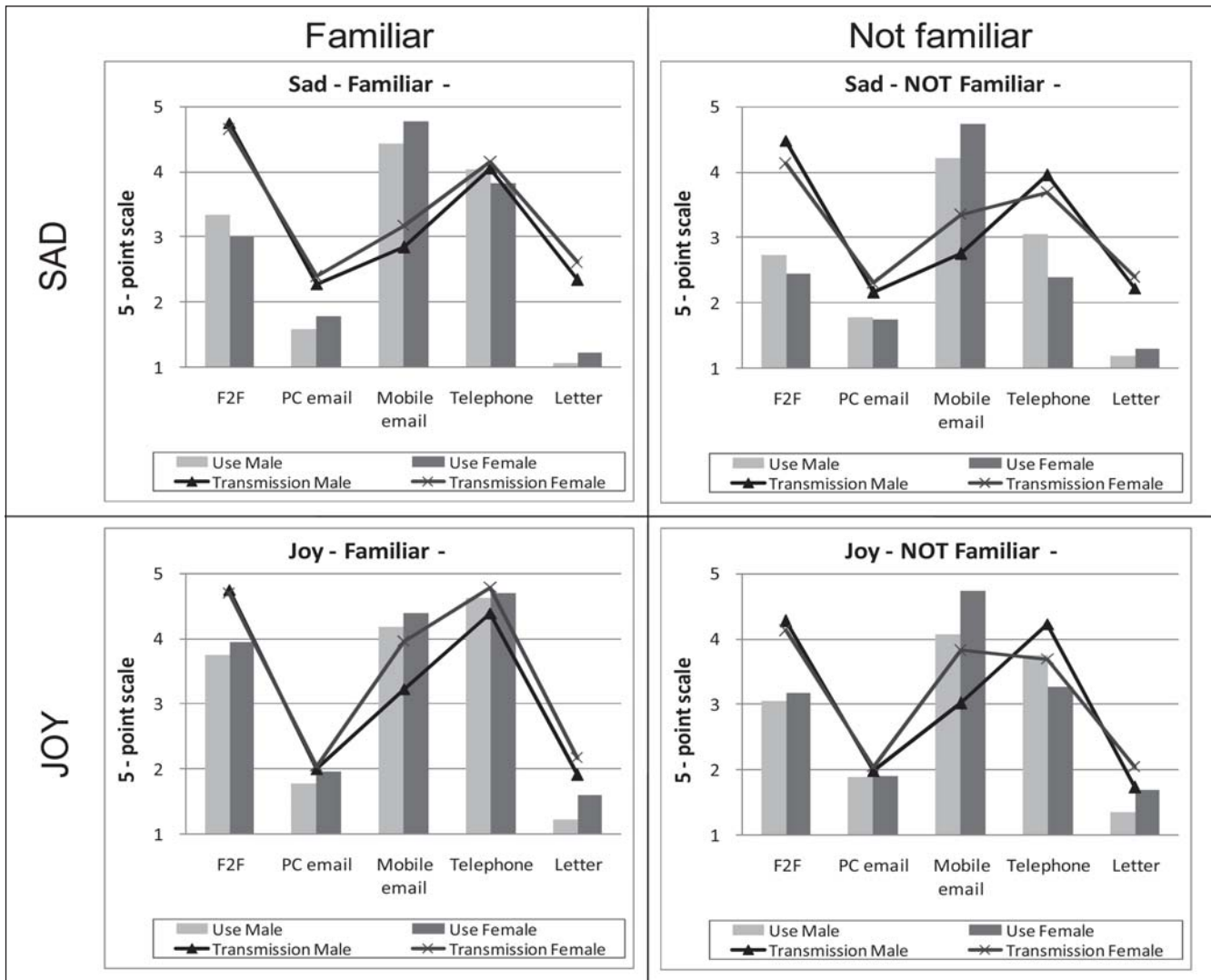


Figure 2: The comparison in sad and joy situations

F2F as well as use of a telephone, when a partner was familiar. Then, gender difference is described. About mobile email, the gender difference was seen at times other than the familiar partner at the time of joy emotion. Therefore, the degree for which the female uses mobile email is higher than male. About mobile phone email, the significant gender difference was seen on the degree of emotional transmission (to the familiar partner, it was a significant tendency at the time of the emotion of sadness. It seems that the female considered that mobile phone email was the media from which emotion is transmitted easily compared with the male. According to the Scott and his colleague's research on mobile phone email, female uses more emoticons than male (SCOTT, KATO, & KATO, 2007.) This can also be a cause of this result. That is, the female email sentence is considered

that a rich emotion expression will be included rather than a male email sentence. Although the degree of the use of letter is low compared with other media, the female uses a letter rather than a male. It is considered as a cause that it is used to the woman writing a text (e.g., SCOTT, 2005). About the telephone, the results about gender differences were complex. It seems that using a telephone to the partner who is not familiar, thought the male that their emotion is transmitted (emotion transmission) rather than the female at the time of joy emotion. Moreover, a male uses a telephone rather than a female, also on the use of a telephone at the time of a partner who is not familiar. As opposed to it, it seems that the female feels if emotion is easily transmitted using a telephone to a familiar partner compared with the male at the time of joy emotion.

4. Conclusion

The reasons for selection of the media in the case of a reply which are the free response data obtained from the participants were classified into the categories. Figure 3 shows the summary of the rationale of this study.

The main emotional strategies obtained from analysis were summarized below.

1. Except for the familiar partner, “mobile email received” was the most common reason for the use of mobile phone email at the time of receiving joyful communication. For the familiar partner, the most common reason was “quick response.”
2. The most common reasons for not being concerned with the partner’s familiarity but using a telephone were “quick response.” There were many, especially the reasons compared with the time which is not familiar, when a partner was familiar. Moreover, at the time of joy emotion, when a partner was familiar, the 2nd had many reasons of “Emotion is transmitted.” Furthermore, the 3rd had many reasons of “I want to talk.”

3. This was also the same reason for meeting a familiar partner at the time of joy emotion. That is, “Emotion is transmitted” was most reasons.

The relation between emotion transmission and media selection was investigated from the data of the five point scale about the degree of emotional transmission to a partner and the degree to which actually uses each media in a reply. In this analysis, the obtained data was divided into male and female, and the gender difference was also examined.

1. First, the difference of media is described. It seemed that a telephone was used to a familiar partner by both emotion (joy and sad.) There was much selection of F2F as well as use of a telephone, when a partner was familiar.
2. Then, gender difference is described. About mobile email, the gender difference was seen at times other than the familiar partner at the time of joy emotion. Therefore, the degree for which the female uses mobile email is higher than male. About mobile phone email, the significant gender difference was seen on the degree of emotional transmission (to

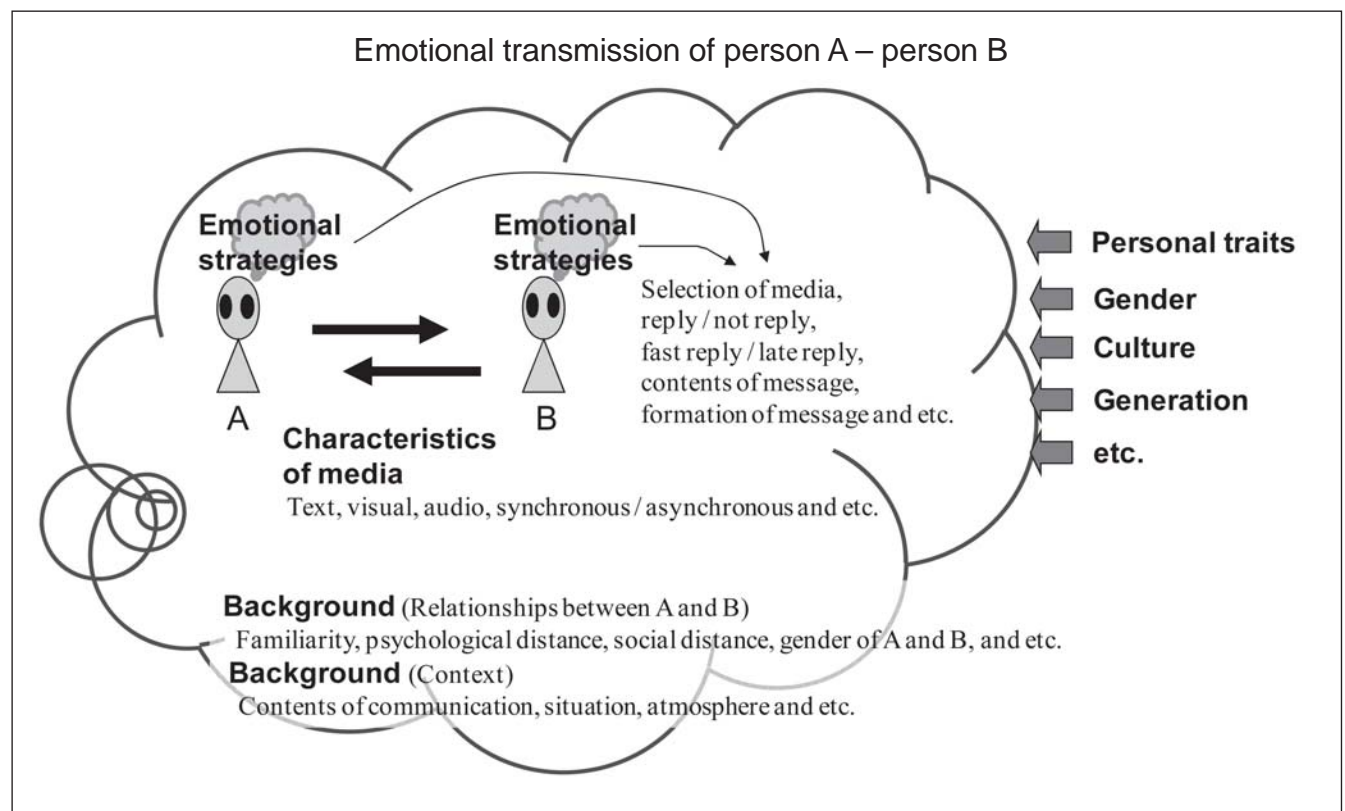


Figure 3: Scheme of emotional transmission in one to one communication

the familiar partner, it was a significant tendency at the time of the emotion of sadness. It seems that the female considered that mobile phone email was the media from which emotion is transmitted easily compared with the male.

3. Although the degree of the use of letter is low compared with other media, the female uses a letter rather than a male.

4. About the telephone, the results about gender differences were complex.

Note

This study was supported by Grant-in-Aid for Young Scientists (B) No. 19700647 from the Ministry of Education, Culture, Sports, Science and Technology (MEXT).

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