Measuring Inter-Group Attitudes with Different Languages: Using an Inter-Language Simulation*

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INTRODUCTION

When two strangers from different cultures meet, the first and foremost issue would be: what language shall they speak? They might seek for a shared language, for example when Japanese tourists go to foreign countries and seek to confirm whether English can be used or not. In cross-cultural encounters, however, there are many cases in which no useful shared languages are available. Sometimes we can ask interpreters to help share information, but if not, we may feel nervous and anxious and occasionally give up communication with strangers. We might even develop a negative attitude towards a whole group of people from a different culture. The question here is: can the attitude toward the out-group with a different language be positively changed by diminishing the language uncertainty? The present study experimentally investigated how language comprehension affected attitudes towards people in the out-group.

In social psychology, inter-group issues have often been argued with group conflicts studies. Social identity theory insists that one, as the member of a group, tends to favor (members of the) the in-group over the out-group (Tajfel & Turner, 1986). This tendency is known as in-group favoritism, and it can arise even in minimal group situations, where people are randomly categorized into groups without being given any personal advantage (Billig & Tajfel, 1973). The in-group bias frequently causes inter-group conflicts and it notably when the groups have cultural differences; norms, belief, custom, language, religion, and so on. To cope with such intergroup conflicts, numerous studies into intergroup contacts have been conducted (e.g., Pettigrew, 1998). Most of those studies theoretically depend on *the contact hypothesis. The contact hypothesis*, first presented by Allport (1954), states that under certain conditions contact between groups in conflict reduce prejudice and change negative intergroup attitudes. The conditions are: equal group status in the contact situation, successful contact in sustained communication, intergroup cooperation, and support from authorities.

Inter-group conflicts concerning language have been explored especially in the context of inter-ethnic group relations. One of the pioneering studies, by Lambert, Hadgson, Gardner, and Fillenbaum (1960), experimentally investigated the effect of language difference in interpersonal evaluations in Québec. They found that English-speaking Canadians accorded a French speaker a less favorable social evaluation than English speaker, and so did French Canadians. The results were interpreted to connect with lower social status of French Canadians at that time. Even in a same language, how people speak (e.g., accent, speech rate, and speech style) is also considered to be an important factor for the evaluation of the speakers. Language sometimes cues the activation of stereotypes and prejudice. For example, Americans with the most standard accents consistently regard accented speakers as less intelligent, poorer, and less educated, (e.g., Bradac & Wisegarver, 1984; Ryan & Carranza, 1975; Tucker & Lambert, 1969).

Focusing on individuals in the early stage of group contact, attitudes toward an out-group with a different language are also related to their 'culture shock'; it arises when people encounter people from

another culture. According to Triandis (1994), culture shock occurs when people cannot perform 'isomorphic attribution.' He also insists that culture shock decreases as people discover similarities and have more contacts with people from other culture. Language comprehension possibly makes people feel similarities with the out-groups. Ward, Bochner, and Furnham (2001) pointed out that language skills facilitated communication with members of the host culture, assisted in effective culture learning and created avenues of social interaction and, ultimately, social support. For example, refugees' language fluency is one of the important factors for their successful adaptation and life satisfaction (Berry & Blondel, 1982). Accordingly, when people enter a new culture, language skill is considered to be an important factor for reducing their culture shock.

As shown above, there are various studies about inter-ethnic group interactions that show language has the power to reinforce group identity, which may cause language-based prejudice and inter-group conflict. However, there are not so many evidential studies which focus on the main function of the language, transmission of information, and communication problems between groups. In the minimum group condition with only simple language uncertainty, what kinds of attitude do people develop toward the out-group members? The present study aimed at inter-group attitudes with only a language uncertainty.

In short, according to the contact hypothesis and the culture shock studies, successful contacts lead to a positive attitude toward the out-group. Language comprehension was considered to promote successful contacts, so the causal model shown in Figure 1 was predicted. Moreover, we tested whether there was direct influence from language comprehension on the attitude toward the out-group.
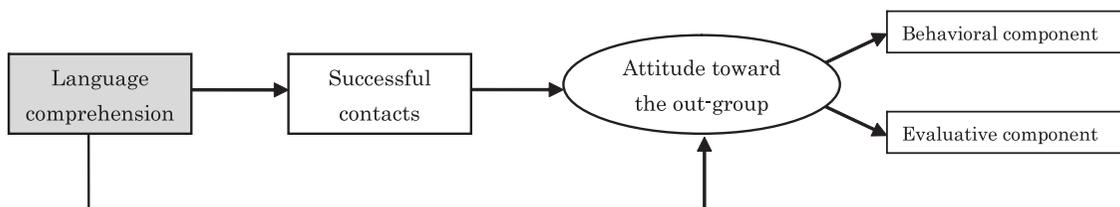

Figure 1：The hypothetic model of the intercultural attitude

This study experimentally created a very simple language barrier between two groups and measured the intergroup attitudes. In order to test the above model, a gaming simulation was used. For the last two decades, gaming simulations have been used in experimental research in social psychology. It is defined as: the process of problem solving by participants, by exchanging information and making collective decisions through communication, according to given rules in a simulated stage, abstracted from reality (Fujihara, 2007). Ando (1999) used an inter-cultural simulation, BaFá BaFá (Shirts, 1977), to manipulate social identity before her study exploring whether cooperation could be promoted by identification with an in-group. Maemura, Kato, and Fujihara (2006) manipulated some factors of culture using BaFá BaFá, to investigate the effects of cultural factors on the participants' attitudes toward the out-group. In the present study, 'Inter-Language Simulation (ILS) (Maemura, 2007) was used to measure the attitudes toward the out-group with an added language barrier. This game simulates the early stage of interaction between two groups, the members of which use different imaginary languages.

The advantage of Gaming simulations is that they allow us to observe the participants' behavior and measure the attitude without strong experimental bias, while controlling extra variables (Kato, Nonami, Okamoto, & Fujihara, 2005). The participants are allowed to act freely in the game to some extent, that is according to their own ways of thinking. Additionally, using the gaming simulation could also be beneficial for the participants. For Japanese students, it is relatively rare to meet people who speak a foreign language, and to experience the difficulties this causes in their daily lives. The experimenters could possibly offer the gaming simulation as an intercultural training and promote participants' consideration of different cultures and different languages.

METHOD

Participants

One hundred and ninety three Japanese undergraduate students (there were 80 males and 113 females, the mean age was 19.66 years, standard deviation was 0.68 years) participated in these gaming simulations. All were the students at a private university in Japan. In the gaming simulation, students were divided into groups of seven or eight individuals. There were twenty four such groups, playing the gaming simulation in pairs, with one A-group and one B-group.

Procedure

In this study, we used a gaming simulation named "Inter-Language Simulation" (Maemura, 2007) to measure the attitude toward the out-group with different language.

The "Inter-Language Simulation" is like a role-playing game, creating a situation in which people encounter another group of people whose language they do not understand. The participants were randomly divided into two groups (group A and B), each of which had different imaginary languages (language A and B). Participants used the imaginary language to play a simple card-trading game. In the middle of the simulation, some people from each group visited another group with a different language and try to negotiate with people in the different group. In order to motivate participants to communicate with other participants, they were told to gather coins, which were dealt by facilitators each after successful contacts (trading cards), as many as possible.

All participants visited the out-group once, for a few minutes per session, and there were two sessions in total (we call them 'session 1' and 'session 2'; see Table 1). After the session 2, participants answered questionnaires. Using scaled responses, the participants' behavioral intentions toward the out-group, their out-group identities, as well as their images of the out-group were measured. We also tested the participants' out-group language comprehensions and measured their successfulness in contact with the out-group by counting the coins.

Table 1 : Schedule of the ILS

sessions	matters	time
instruction	Orientation	5 min.
	Instruction of group specified rule	25 min.
session 1	Card trading game *within* groups	5 min.
	Card trading game *between* groups	
	members' exchange 1)	3 min.
	members' exchange 2)	3 min.
	members' exchange 3)	3 min.
session 2	Card trading game *within* groups	5 min.
	Card trading game *between* groups	
	members' exchange 1)	3 min.
	members' exchange 2)	3 min.
	members' exchange 3)	3 min.
	Questionnaire (including the language test)	
	Debriefing	20 min.

Measures

After each session, participants were asked to complete an anonymous questionnaire that examined their language comprehension of the out-group and their attitudes toward the out-group. The scales included in the questionnaire were as follows.

1. Language comprehension (out-group language test)

Language tests (test A and test B) were constructed to examine how well participants understood the out-group's language. The score of the test ranged from 0 to 10.

2．Successful contacts

After the game, each participant reported how many coins they got, which is supposed to indicate their success in contacts with the out-group.

3．Behavioral intentions toward the out-group

The behavioral differential scale was originally developed by Triandis (1964) and Tanaka (1966). We used three items from the Japanese version of the scale developed by Fujihara (1987) concerning on "Partnership" (e.g., "I would like to cooperate with them" and "I would like to speak to them." Furthermore, we added three original items about behavioral intention concerning on "Language" (e.g., "I would like to understand the language of the other team" and "I would like to negotiate with the other team more often.") They were measured by 7 point scale.

4．Commitment toward the groups (Group evaluation)

For measuring evaluative (affective) components of attitude, we used the following four items from the group identification scales developed by Karasawa (1991) ("Most of the out-group's members are good persons," "I can trust the out-group's people," "I would like to be a member of the out-group," and "I feel attachment to the out-group.") The same items were also asked for the 'in-group' to check the difference of the group evaluation (measured by 7 point scale).

RESULTS

Manipulation check

In order to check whether participants perceived themselves as in-group, and the other group as out-group, their evaluation of the in-group (In-group EV) was compared with their evaluation of the out-group (Out-group EV). Results indicated that the In-group EV (M=5.64 and SD=1.02) was higher than the Out-group EV (M=4.42 and SD=1.14; $t_{(192)}$=12.04, p<.001). This suggests that the participants showed in-group bias and that they recognized group differences.

Mean scores

Participants' comprehension of the out-group language was examined after session 2. The mean score was 4.48 (SD=2.52). Additionally, the mean scores on the language test were not different between group A and group B (group A: M=4.75, SD=2.55/ group B: M=4.21, SD=2.47; $t_{(191)}$=1.49, $n.s.$), Thus, no difference of difficulty could be detected between language A and language B. The mean numbers of coins participants acquired through card trading (successful contacts) was 0.95 (SD=.99). Attitudes toward the out-group were measured by Out-group Evaluation, Behavioral Intention (Partnership), and BI (Language). Table 2 shows the mean scores of those variables.

Table 2：Mean score of variables

	Language Comprehension	Successful Contacts	Attitude toward an out-group		
			Out-group Evaluation	BI(Partnership)	BI(Language)
Mean	4.48	0.95	4.42	4.96	5.82
(SD)	(2.52)	(0.99)	(1.14)	(1.13)	(1.17)

Structural Equation Modeling

We tested the hypothesis using Structural Equation Modeling. At first, the hypothetical model was tested, however, it did not fit well ($\chi^2_{(5)}$=31.13, GFI=.94, $AGFI$=.83, CFI=.86, and $RMSEA$=.16). When estimating attitude toward the out-group independently of evaluation and behavioral intention, the modified model fitted better (see Figure 2; $\chi^2_{(5)}$=6.93, GFI=.986, $AGFI$=.958, CFI=.989, and $RMSEA$=.045).

Figure 2 illustrates a causal model for inter-group communication. The positive influence of "Language comprehension" on "Successful contacts" and "Successful contacts" on "Out-group Evaluation" were shown. There was also a direct effect of "Language comprehension" on "Out-group evaluation." Then "Out-group evaluation" promoted "Behavioral intention" toward the out-group. This implies that "Language comprehension" indirectly raised "Behavioral Intention" toward the out-group. The better the participants understood the out-group language, the more positively they evaluated the out-group, heightening increasing their in further behavior (communication) with the out-group. If they failed to do so, however their behavioral intentions became rather negative.
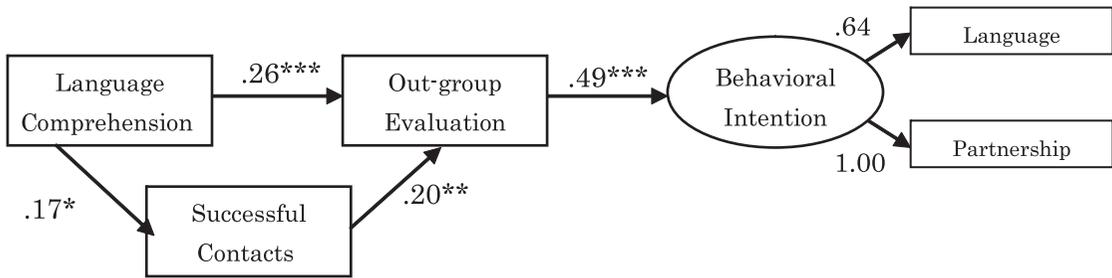
$*p < .05,\ **p < .01,\ ***p < .001$

Figure 2 : The modified model of language comprehension, successful contacts, and the attitude toward the out-group

DISCUSSION

The hypothetical model was mostly supported; language comprehension promoted successful contacts, and successful contacts subsequently gave rise to a positive attitude toward the out-group. Additionally, language comprehension had a direct impact on evaluative components of out-group attitudes.

Successful contacts lead to favorable intergroup relationship, hence Allport's contact hypothesis was supported also in this gaming simulation. Language was useful for negotiation, so it increased the probability of successful contacts. This result evidently revealed one of the main functions of language; as an instrument of communication. Interestingly, however, language comprehension also had a direct effect on the evaluation of the out-group. Language itself independently has the power to the attitude toward the out-group. The combination of these two factors, successful contacts reinforced by language comprehension and language comprehension itself, contribute to the evaluation of out-groups, which strongly impact on behavioral intentions toward the groups.

These findings suggest that when people meet strangers (groups of strangers) with a different language, they might at first have the intention to understand the different language. Then if they gradually succeed in understanding the language, the number of contacts with the group increases, and a positive evaluation of the group can arise. This improves their behavioral intention toward the group. This study did not examine further sessions, but behavioral intention would predict that more contacts with the out-group members might result in an even more positive attitude toward them. By contrast, if people fail to understand the different language, or have great difficulty to do so, behavioral intention toward the group is not promoted and they may tend to avoid the strangers with the different language. Consequently, out-groups' language comprehension can be an essential factor in developing benevolent inter-group attitude, especially by increasing inter-group contacts.

Such tendencies were observed in a limited situation, minimum group condition with a simple language barrier, but how can this be applied to real-world issues? Earlier studies of Second Language Acquisition (SLA) give us some directions. Social psychologists who studied SLA made much effort to demonstrate the psychological factors in second language achievement (e.g., Gardner & Lambert, 1959,

1972; Gardner, Gliksman, & Smythe, 1978; Clément, Gardner, & Smythe, 1980). They pointed out the importance of integrative motivation in second language acquisition, which had relationship with attitudes toward the second language community. According to Gardner's (2000) model, second language achievement was lead by language aptitude, motivation, and other factors. Motivation was additionally categorized into integrativeness; an open interest in the other language group and/or out-groups in general, and the attitude toward the learning situation; an evaluative reaction to the language learning context. His model did not include the process by which motivation was reinforced. The results of the present study imply another interpretation of the relationship between motivation of integrating the group and language learning: language proficiency can promote the integrative motivation toward the out-group which speaks the language. Especially where the second language ability is not necessary in daily life, like in Japan, how well people acquire the second language skills can possibly affect their integrative motivation toward the areas where it is spoken, as well as the integrative motivation promotes their language skills. In any case, these findings were limited in the situation where initial stage of inter-group contacts without any social historical background. Further evidential studies are needed to estimate the multiplier effect of language proficiency and integrative motivation.

There remain technical challenges to this study: although two groups were given equal status in the gaming simulation, inter-group relationships depended on each pair of the groups. So it is uncertain if two groups have a common goal or not. As a whole, in the early stage of inter-group contact, people tend to have negative evaluation toward others whose languages they do not understand, and therefore, they do not try to communicate with them. However, language is not the only way to communicate when we encounter strangers for the first time. There seem to be other social and cultural factors besides language that strongly affect one's attitude toward an out-group. Further research into these other factors is urgently needed.

Acknowledgements

References

Allport, G, W. (1954). *The nature of prejudice.* Reading, MA: Addison-Wesley.

Ando, K. (1999). Social identification and a solution to social dilemmas. *Asian Journal of Social Psychology*, **2**, 227–235.

Berry, J, W., & Blondel, T. (1982). Psychological adaptation of Vietnamese refugees in Canada. *Canadian Journal of Community Mental Health*, **1**, 81–88.

Billig, M., & Tajfel, H. (1973). Social categorization and similarity in intergroup behavior. *European Journal of Social Psychology*, **3**(1), 27–52.

Bradac, J, J., & Wisegarver, R. (1984). Ascribed status, lexical diversity, and control of speech style. *Journal of Language and Social Psychology*, **3**, 239–255.

Clément, R., Gardner, R, C., & Smythe, P, C. (1980). Social and individual factors in second language acuisition. *Canadian Journal of Behavioral Science,* **12**(4), 293–302.

Fujihara, T. (1987). Behavioral science approach to psychological distance among Asian nations representing as personal space. *Bulletin of the Faculty of Integrated Arts and Sciences, Hiroshima University, Journal of Information and Behavioral Science,* **10**, 83–92.

Fujihara, T. (2007). *Gaming simulations of human relations.* Kyoto: Kitaoji-shobo.

Gardner, R, C. (2000). Correlation, causation, motivation, and second language acquisition. *Canadian Psychology,* **41**(1), 10–24.

Gardner, R, C., Gliksman, L., & Smythe, P, C. (1978). Attitude and behaviour in second language acquisition: A social psychological interpretation. *Canadian Psychological Review*, **19**(3), 173–186.

Gardner, R, C., & Lambert, W, E. (1959). Motivational variables in second-language acquisition. *Canadian Journal of Psychology,* **13**(4), 266–272.

Kato, J., Nonami, H., Okamoto, T., & Fujihara, T. (2005). The device of the environmental problem emphasized rule in SIMINSOC. *Kwansei Gakuin University School of Sociology and Social Work Journal,* **98**, 69－79.

Karasawa, M. (1991). Toward an assessment of social identity: The structure of group identification and its effects on in-group evaluations, *British Journal of Social Psychology*, **30**, 293－307.

Lambert, W, E., Hodgson, R, C., Gartner, R, C., & Fillenbaum, S. (1960). Evaluational reactions to spoken languages. *Journal of Abnormal and Social Psychology,* **60**(1), 44－51.

Maemura, N., Kato, J., & Fujihara, T. (2006). The Influence of language, system, and sex upon intercultural attitudes: Research using an intercultural simulation gaming. *Studies in Simulation and Gaming*, **17**(2), 93－100.

Maemura, N. (2007) Inter-cultural communication game and its educational effect: Focusing on language differences. In T. Fujihara (Ed.), *Gaming simulations of human relations*. Pp.161－177. Kyoto: Kitaoji shobo.

Pettigrew, T, F. (1998). Intergroup contact theory. *Annual Review of Psychology*, **49**, 65－85.

Ryan, E, B., & Carranza, M, A. (1975). Evaluative reaction of adolescents toward speakers of standard English and Mexican-American accented English. *Journal of Personality and Social Psychology*, **31**(5), 85－863.

Shirts, R, G. (1977). *BaFaBaFa: A cross culture simulation Simile ii.* Ca: Del Mar.

Tajfel, H., & Turner, J, C. (1986). The social identity theory of intergroup relations. In S. Worchel. & W. G. Austin(Eds). *Psychology of intergroup relations* (pp. 7－24). Chicago: Nelson－Hall.

Tucker, G, R., & Lambert, W, E. (1969). White and Negro listeners' reaction to various American diarects. *Social Forces,* **41**, 463－468.

Tanaka, Y. (1966). Analysis of behavioral factors in social attitudes using Behavioral Differential method: Research example of cultural comparison amang Jaapan, the United States, and India. *Japanese Journal of Psychology*, **37**, 104－108.

Triandis, H, C. (1964). Exploratory factor analysis of sociaal attitudes. *Journal of Abnormal and Social Psychology*, **64**, 420－430.

Triandis,H.C. (1994). *Culture and social behavior*. London: McGraw-Hill.

Ward, C., Bochner, S., & Furnham, A. (2001). *The psychology of culture shock.* East Sussex: Roudledge.

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ABSTRACT

This study focuses on language as one of the main means for daily communication, and investigates how language differences between groups affect attitudes toward people in the out-group. We also analyzed how attitudes would be changed if language comprehension was to progress. To examine the effects of language differences, we used a gaming simulation, "Inter-Language Simulation (ILS)." Participants in the simulation were 193 Japanese undergraduate students. The ILS simulates a situation in which people encounter another group with a different language. There were two imaginary languages (A and B), created by the researchers, and participants were given one rule of the language of the two. In each simulation, seven or eight people with the A language met the same number of people with the B language. The simulation was repeated eight times with different participants. After the ILS, participants filled out questionnaires. The causal model, which showed how out-group language comprehension and the number of successful contacts affected the attitude toward the out-group, was tested by SEM. The results showed that the better the participants understood the out-group language, the more successful contacts they had, which gave rise to a positive image of the out-group, and thereafter their behavioral intention toward the out-group was promoted.

Key Words: gaming simulation, inter-cultural attitude, language, inter-cultural contact