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Perceptions of intercultural interaction and communication satisfaction: A study on initial encounters

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PERCEPTIONS OF INTERCULTURAL INTERACTION AND COMMUNICATION

SATISFACTION: A STUDY ON INITIAL ENCOUNTERS*

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Abstract

This project explored perceptions of intercultural interactions. Data were collected from US undergraduates shortly after they had a face-to-face, one-on-one conversation with an international student. A 15-item instrument was used to measure perceptions of the intercultural interaction. Study 1 included a principal components factor analysis and isolated three factors of perception of intercultural interactions: synchrony, difficulty, and common ground. Further, these dimensions were used to predict communication satisfaction. In Study 2, the factor structure was replicated and overall perceptions of the intercultural interaction were found to be positively correlated with communication satisfaction. When used as predictors of communication satisfaction, the three factors combined to account for 70% of variance.

PERCEPTIONS OF INTERCULTURAL INTERACTION AND COMMUNICATION

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Intercultural communication competence has aroused great interest in scholars over the years (see Hannigan, 1990 for a review). However, there has been insufficient attention to empirical research (Dinges & Baldwin, 1996), especially with regard to effective intercultural communication. The present paper reports two studies and addresses an important aspect of the issue -- the connection between perceptions of intercultural interaction and intercultural communication satisfaction. Communication satisfaction results from perceptions of intercultural interaction that are important to intercultural communication competence. Consequently, understanding the dimensions underlying perceptions of intercultural interaction is needed. Greater understanding of intercultural perception dimensions may inform the literature about key aspects of intercultural interaction relevant to intercultural competence.

Perceptions of the Interaction

Intercultural communication literature has reported salient characteristics of face-to-face intercultural interactions. These characteristics have distinguished intercultural from intra-cultural interactions. It has been found, for example, that intercultural, in comparison to intra-cultural, interactions were perceived as giving rise to higher uncertainty (e.g., Gudykunst, 1983; Gudykunst, Chua, & Gray, 1987), higher anxiety (Stephan & Stephan, 1985) and lower quality of communication especially in initial encounters (Hubbert, Guerrero, & Gudykunst, 1999). These findings have uncovered aspects of communication that vary considerably from intracutural to intercultural settings and may represent areas in interaction adaptation for intercultural communication competence. It is therefore important to identify unique aspects of intercultural interaction that may help explain the variation in uncertainty, anxiety, and communication quality. Perceptions of communication capture the

global impression participants have of their interaction and may include potentially unique factors that influence uncertainty, anxiety, communication quality, and, ultimately, communication competence in intercultural interactions.

Perceptions of communication have been commonly treated as an indication of the characteristics of communication in various relationships and are associated with variation in communication behaviors. Knapp, Ellis, and Williams (1980) have generalized three dimensions of communication perceptions from reports of individuals about interactions in various (intracultural) interpersonal relationships. These communication perceptions include personalness, synchrony, and difficulty. Personalness is a function of relationship intimacy (or interpersonal distance) of the participants. Interaction participants in close personal relationships generally perceived a high degree of intimacy. Synchrony was argued to represent the smooth coordination of the interaction, which often is a function of mutual familiarity with each other's communicative pattern. Persons with a history of interaction with one another, or a similar sociocultural background, tended to perceive a higher degree of synchrony in their communication. Difficulty was related to perceived barriers in communication. Difficulty was not simply the opposite of synchrony as a lack of synchrony in an interaction may not give rise to the perception of an interaction being difficult. For an interaction to be perceived as difficult, it would have been extremely or severely lacking in terms of general information exchange or basic mutual understanding. Difficulty indicated realization of obstacles to communication, a categorical change from synchrony.

The three dimensions of communication perceptions were effective in helping to identify a wide range of interpersonal relationships. The construct has also proven useful in comparing ingroup and outgroup interactions (Chen, in press), as well as comparing cross cultural differences of ingroup-outgroup distinction. Gudykunst, Yoon, and Nishida (1987), for example, found that interactions with outgroups, in comparison to those with ingroups,

were generally less personal, less synchronized and more difficult, and that there were cross cultural differences with respect to this distinction among US Americans, Japanese, and South Koreans. While perceptions of interactions have provided a measure to describe interactions in various intracultural relationships or for comparison of cross-cultural differences in relationship types, it may not be completely adequate to apply it directly to the study of intercultural communication. With participants of varying cultural backgrounds, intercultural communication has generally involved particular characteristics that, as discussed earlier, have proven unproblematic in intracultural communication. Perceptions of intercultural interactions, therefore, may overlap, but may not be identical to perceptions of intracultural interactions. Secondly, when the focus of the interest is on the interaction process rather than on the relationship, perceptions may also reconfigure and reflect the shift of attention.

Perceptions of Intercultural Interactions

Synchrony and difficulty are factors concerning coordination and progress of the interaction and have been found relevant to the interaction process. As individuals' life-experience varies from one to another, people's familiarity and understanding of foreign individuals have also been known to vary. Some may be less familiar with a cultural stranger and experience more difficulty communicating with that person. Some may have more understanding of their interaction partner in an intercultural encounter. Some may have more positive impressions of their intercultural experience the first time around. These individual differences are likely to manifest in variation of coordination and smooth progress of an interaction. This might occur in an initial intercultural encounter and be reflected in the participants' perceptions. The construct of perceptions of interaction, therefore, would be partially applicable to initial intercultural communication in terms of synchrony and difficulty. Based on this reasoning as well as the studies reviewed above, it is expected that

the factors of synchrony and difficulty would be part of perceptions concerning the interaction process. Thus it is hypothesized that

H1.   Perceptions of initial intercultural interaction would include the factors of synchrony and difficulty.

A direct application, however, may prove inappropriate for initial intercultural interactions with respect to the dimension of "personalness". In initial interactions in particular, "personalness" degree is largely irrelevant, as understandings that may be gained in contact over time might not yet be available to offset the effect of salient cultural differences. This possibility has been suggested in the findings reported in Gudykunst and colleagues. For instance, Gudykunst and Shapiro (1996) compared interaction in three types of intercultural relationships: between friends, between acquaintances, and between strangers. They found that the quality of communication was highest between friends, followed by between acquaintances, and was lowest between strangers. Uncertainty and anxiety distinguished only between friends and nonfriends (acquaintances and friends): communication between intercultural friends occurred with lower uncertainty and anxiety than that between intercultural acquaintances or between strangers. Acquaintance and stranger relationships were associated with similar levels of uncertainty and anxiety, though differing levels of quality of communication. Personalness, conceptually, is a factor that emerges with the development of a relationship and is mostly irrelevant in relationships with zero history. Thus, in initial interactions, personalness is basically a constant: it is low by definition.

If personalness should be applied only to intracultural interactions while synchrony and difficulty should be applicable for both inter- and intracultural interactions, a question arises regarding whether there are factors that may be unique or applicable mostly to intercultural interactions. Besides uncertainty and anxiety, available literature has also

pointed to other features of the interaction process that may be salient to and predictive of intercultural communicators. Previous studies have shown that meaning negotiation and frequent topic switching are typically found in interactions between native and nonnative speaker participants in intercultural encounters (e.g., Grass & Varonis, 1985; Long, 1983). All together, past studies have suggested that mutual unfamiliarity is a defining feature of intercultural communication (e.g., Chen, 1995). Ignorance of each other's life world or lack of commonality between communicators has proven the major problem communicators reported thinking about during their conversations (Chen, 1994). It would be reasonable to expect that, besides synchrony and difficulty, perceptions of intercultural interaction may have other dimensions. Further, as synchrony and difficulty have mostly reflected the procedural aspects of the interaction, this study has also had as its goal the investigation of the content-related aspect of the interaction. If familiarity or commonality has been reflected in perceptions of the procedure, one might expect the same in perceptions of the content of the interaction. To explore this possibility, a research question was posed about other possible factors that might affect perceptions of intercultural interactions.

RQ1. Are there factors besides synchrony and difficulty that underlie perceptions of

intercultural interactions?

STUDY 1

Method

Respondents

Eighty US undergraduates (35 male, 45 female) with a mean age of 21.7, SD = .82, volunteered to participate in the current study. All respondents were European-Americans and of middle-class background. Data were collected shortly after they had a face-to-face get-to-know-each-other conversation with an international student who was a nonnative speaker of English from an East Asian country. The activity was part of a class project in a

communication course where students were asked to help in the reception and orientation of new international students. The conversation occurred in students' first in-class meeting and lasted for about 50 minutes. Each respondent had a randomly assigned partner. Respondents were asked to fill out the questionnaire as soon as the meeting was over after the international students departed. They responded with respect to the conversation they had just had with the international student partner.

The Instrument

A 15-item questionnaire was used to measure perceptions of the interaction (Please see table 1). Seven items in the questionnaire were adopted from the scale created by Knapp et al. (1980). The items constituted the factors of synchrony and difficulty in the original study. Based on data from previous studies where participants reported in writing their thoughts during a conversation during an initial intercultural encounter (e.g., Chen 1994), the author created the remaining 8 items. These reported thoughts revealed common perceptions intercultural communicators had about their interactions. They reported thinking about what they should, could and wanted to talk about, and what they noted about the interaction and about their interaction partner. The scale measuring perceptions of interaction achieved a satisfactory level of reliability: alpha = .92, with a mean score of 79.09 and a standard deviation of 19.1.

Data Analysis

To justify the factor structure, the Kaiser-Myeer-Olkin measure of sampling adequacy was .88, reaching the meritorious level (Kim & Mueller, 1978). Factor analysis was then applied to identify the underlying structure of the relationships among the 15 items. First, principal factor analysis was run. The latent root was used initially as a guideline. Only the factors having eigenvalues greater than 1.0 were considered significant (Hair, Anderson, Tatham, & Black, 1995). The cutoff point established by this eigenvalue was four factors.

Examination of scree plots, however, suggested a 3-factor solution as a better fit. Three factors were then extracted and submitted to varimax rotation.

Results

Table 2 presents the results of the factor analysis. The three rotated factors combined to account for 64% of the total variance. The first factor accounted for 45.1% of the variance. This factor contained 6 items with loadings above .55. Most items dealt with how the participants coordinated the conversation (e.g., "Our conversation was spontaneous, informal, and relaxed." "Our conversational style seemed well coordinated with each other."). Following Knapp et al. (1980), factor 1 was thus named communicator "synchrony".

The second factor contained five items with loadings higher than .55. Most items were about the difficulties encountered during the process of communication (e.g., "It was difficult for us to know when the other person was serious or just joking," "We had trouble understanding each other," "Our conversation was constrained and awkward."). This factor was interpreted and labeled as communication "difficulty", also following Knapp et al. (1980). The second factor 2 accounted for 9.5% of the variance. It should be noted that two items (# 11 and #13) for the second factor had considerable secondary loadings on factor 1. The first hypothesis regarding the factors of synchrony and difficulty was supported.

The third factor contained three items with loadings higher than .55. The items had to do with involvement in the content of the conversation (e.g., "We were rather free to talk about whatever happened to be brought up," "We might soon run out of things to talk"), and suggested perceptions of common interests between partners. Given the superficial nature of initial exchanges, common interests in a casual talk tend to reflect a common ground relating to the cultural level of information between intercultural communicators. This factor was named "common ground". The third factor accounted for 8.4% of the variance.

Discussion

This work sought to uncover factors associated with interpersonal perceptions of intercultural encounters. In addition to the factors of synchrony and difficulty, a third factor was isolated. Unlike the first two, the last factor pertained to the handling of content and provided preliminary evidence in support of past findings on problematic meaning negotiation in intercultural communication. Handling of topics in the talk seemed to affect participants not only in their performance, but also in their perceptions. This outcome was probably due to an absence of interest in, and ability to contribute to, the conversation topics. The common ground factor indicates that an aspect salient in intercultural communication is identification of a common footing. The common ground factor involved substantive, common knowledge and supplies topics around which participants may build the conversation. This factor tapped into a key aspect of intercultural communication, a lack of mutual familiarity between interaction parties, not just at the individual level, which is the domain of "personalness", but mostly at the cultural and the social levels (Miller & Steinberg, 1975). Inability to identify topics of mutual interest was most likely symptomatic of mutual lack of familiarity with the partner's culture. The factor was labeled "common ground" to reflect this characteristic of intercultural communication. This factor made conceptual sense and was highly relevant to cultural strangers as partners in an interaction. Further empirical testing will be needed to demonstrate that the factor has cross-situational stability and validity. One possible way to accomplish this latter objective would be for researchers to assess if these factors have effects on other conceptually related constructs.

Lastly, regarding the double-loaded items (#11 and #13) in the first two factors these items mostly concerned communication breakdowns and awkwardness of the communication. An explanation was that hardship and awkwardness in the conversation occurred due to a failure of proper communicator co-ordination. Conceptually, synchrony and

difficulty were not identical or correlated, but may have overlapped somewhat empirically. To be more specific, an easy interaction tended also to be synchronized but a synchronized interaction was not necessarily an easy one. This calls for rewording of the items involved in future research. As the purpose at this stage was not scale-construction for construct measurement but rather to explore underlying dimensions of the construct, all items were maintained for further testing in the second study.

<div align="center">STUDY 2</div>

Based on study 1, study 2 attempted to replicate the three factors of perceptions of intercultural communication (synchrony, difficulty, and common ground), and to examine how these factors may contribute to communication satisfaction in intercultural interactions. Considering the robustness of the factors of synchrony and difficulty in past studies, as well as the conceptual importance of common ground in intercultural communication, a hypothesis was proposed to replicate the factor structure from study 1.

H1. Factors of perceptions of communication would include synchrony, difficulty, and common ground.

<u>Communication Satisfaction</u>

In order to assess the relationship between these factors and other conceptually related constructs, communication satisfaction was selected. Communication satisfaction was conceptualized as an affective construct that reflects participants' emotional reaction toward their interaction in terms of the degree it has met or failed to meet their expectations (Hecht, 1978). The more a participant's communicative expectations were met in an interaction, the more the person reported feeling satisfied. Communication satisfaction was also conceived of as a measure of effective communication between communicators of different racial or ethnic backgrounds (e.g., Hecht, Ribeau, & Alberts, 1989). High communication satisfaction was predicted by competent communication (Spitzberg, 1991).

Research in intercultural communication has not paid sufficient attention to this aspect of communication, with the notable exception of two studies. First, Gudykunst and Shapiro (1996) compared communication satisfaction in three types of intercultural relationships: friends, acquaintances, and strangers. They found that the highest satisfaction levels were reported for communicating with friends. In contrast, low levels of satisfaction were found in interactions between strangers and between acquaintances. Second, Gudykunst, Nishida, and Chua (1987) investigated perceptions of an interaction and communication satisfaction in intercultural interpersonal relationships. They reported that in intercultural communication between interpersonal relationship partners, the more one perceived the communication as personalized, synchronized and less difficult, the more one felt satisfied with the communication. It was also reported that satisfaction tended to be higher in intragroup encounters than in intergroup encounters. This line of research has uncovered the influence of the intimacy level of relationships on satisfaction of individuals with their intercultural communication in relationships. Specifically, satisfaction increased as individuals got to know each other better, since intimacy was premised on mutual familiarity. Thus, variation in mutual familiarity was also associated with satisfaction, which was conceptually distinct from intimacy. To elaborate, the main difference between a friend and an acquaintance, or a friend and a stranger, was that of personal familiarity. Personal familiarity was higher for friends and lower for acquaintances and even lower for strangers. As cultural familiarity inevitably and relatively increases with personal familiarity, low degrees of personal familiarly in stranger and acquaintance relationships are insufficient and likely further "diluted" by the partners' cultural differences. Thus, cultural differences represent a salient and hard to overlook aspect of intercultural communication especially in initial interactions.

Logically, communication satisfaction is preceded and affected by perceptions in and of interaction. A correspondence between the two might be expected such that perceptions of

higher sychronization, lower difficulty, and greater common ground, would be associated with greater satisfaction. The two constructs, serving as affective (satisfactory feeling) and cognitive (perception) measures of intercultural communication respectively, may help explain the working of the intercultural communication process. Yet neither has received much attention in the literature. The few studies on this subject were done either on relationship development or as a contrast to comparable intragroup interactions. The focus was not on the unique aspects of intergroup or intercultural encounters, nor was it on how these aspects might influence outcomes of intercultural communication. Moreover, previous studies were mostly based on recalled interaction, which was removed from the actual encounter. This work helped fill this gap by investigating the relationship between these two constructs as interrelated aspects of the on-going communication process. Communication satisfaction data may also validate the measure of perceptions of interaction perception if they are found related to the latter. Based on the above discussion, the following hypothesis was forwarded:

H2.   Overall perceptions of the interaction will be positively correlated with

communication satisfaction.

To explore the contribution of the perception factors to communication satisfaction in an intercultural setting, a research question is posed:

RQ1.   How well does each dimension of perceptions predict communication satisfaction?

Method

Respondents

Respondents were 84 US undergraduates (40 males, 44 females) who volunteered to provide information after an initial interaction with an international student from an East Asian country. The mean age was 21.4, SD = .67. Two respondents were African-Americans and the remaining were European-Americans. The procedure was identical to that reported in

the first study but with additional questions. Instruments included the same 15-item

questionnaire from the first study to measure perceptions of the interaction and a 28-item

scale of communication satisfaction adopted from Hecht (1978) and Hecht, Larkey, and

Johnson (1989). The Kaiser- Myeer-Olkin measure of sampling adequacy was .89. Both

perceptions of the interaction and communication satisfaction scales achieved satisfactory

levels of reliability: alpha = .89 and .91 respectively. The mean scores are 63.20, SD = 15.6

for perceptions and 91.05, SD = 21.6 for the satisfaction measurement respectively.

<div align="center">Results</div>

<u>Confirmation of Factors</u>

Three factors extracted in a factor analysis accounted for 63.4 % of the total variance

(See Table 2). Factor loadings at or above .55 were considered significant. The first factor

contained seven items, all of which had a loading above .78. Six were the same items loaded

on the factor of "Synchrony" in Study 1, plus one additional item (# 14) that loaded on the

third factor (Common Ground) in Study 1. The first factor accounted for 50.7% of the total

variance. The second factor contained four items with significant loading, all of which were

identical to those which loaded on the second factor (Difficulty) in Study 1. As in Study 1,

two items (#11 and #13) also had high secondary loadings on the first factor. This factor

accounted for 12.4% of the variance. The third factor contained four items, two of which also

loaded on the third factor (Common Ground) in Study 1. The remaining two items (#12 &

#6) loaded on the second factor 2 (Difficulty) in study 1. This last factor accounted for 6.7%

of the variance.

A procedure of <u>s</u> statistics, or salient variable similarity index[1] (Cattel, 1949; Cattel,

Balcar, Horn & Nesselroade, 1969), was employed. <u>s</u> statistics compared the degree of

similarity of loading patterns by estimating the significance of salients in common to the two

studies. Factor loadings of each factor from the two studies were divided into positive

salients, hyperplane non-salients, and negative salients. Hyperplane was taken at an average proportion of 60%, 70%, and 80% for each of the factors respectively based on the number of items with loadings at or above the .55 levels. Common variables loaded on the same factors in each of the three categories were cross-classified. The frequency count of all cross-classifications was then compared with chance expectations between the patterns of loadings of the two studies. The $\underline{s}$ value was .49, $\underline{p}$ < .01, for the first factor, .47, $\underline{p}$ < .005, for the second factor, and .46, $\underline{p}$ < .001, for the third factor indicating significant departure from a relationship predicted purely by chance. The factors from data in Study 2 proved very similar to that from Study 1. In addition, a follow-up MANOVA conducted on factor scores between the two data sets yielded no between-study difference. Therefore, the first hypothesis was confirmed.

Effects of Synchrony, Difficulty, and Common Ground on Communication Satisfaction

Correlation analysis yielded a positive and significant correlation between perceptions of interaction summation scores and communication satisfaction scores, $\underline{r}$ = .827, $\underline{p}$ < .001 (two-tailed). Hypothesis 2 was confirmed. Further, the factors of synchrony, difficulty and common ground were constructed from sub-scales, which was computed with the regression method, and used as predictors of communication satisfaction. This computation method was recommended for factors with unequal loading that were used to predict outside variables (Kim & Mueller, 1978). The three factors were entered one at a time with synchrony first, followed by difficulty and then common ground. The three predictors combined accounted for 70% of the variance in communication satisfaction. In the order of beta value, synchrony contributed the most (about 49%); difficulty accounted for about 14%; and common ground accounted for about 7% of the variance in communication satisfaction (See Table. 3). Tolerances are large for all three independent variables, indicating the absence of collinearity.

General Discussion

Besides synchrony and difficulty, intercultural communicators also noted the degree of common ground they shared with each other that was reflected in the substance of their conversation among others. They noted the ease with which they moved in and out of a topic, as well as the interest each displayed toward the conversation by topic selection. They also noticed the discomfort of running out of things to say or the gratification of the other being interested and paying attention. The more the interaction was perceived as proceeding with ease and smoothness, the more participants reported an overall sense of satisfaction with this communication experience. This substantiates the construct of perceptions of intercultural interactions as a viable concept for the understanding the state of initial intercultural interaction.

The three dimensions of the construct could have served as a conceptual frame to synthesize findings from a previous study on effective behaviors in intercultural communication by Martin and Hammer (1989). Martin and Hammer isolated "nonverbal behaviors, conversation management, and conversation content" as constituting competent and effective behaviors. Of these, nonverbal behaviors were most likely associated with the perception of synchrony, while management and content of conversation would have contributed to perceptions of difficulty and common ground (or lack of). At the operational level, perceptions of intercultural interaction may prove useful as intermediate variables for a theoretical model of intercultural communication competence (Spitzberg, 1994). This is consistent with findings from interpersonal communication literature that competent communication skills predicted communication satisfaction (Duran & Zakahi, 1987, 1988; Spitzberg & Hecht, 1984).

The relationship between intercultural interaction perception factors and communication satisfaction was consistent with similar studies previously reported about

intracultural and/or interethnic interactions (e.g., Hecht, 1984; Hecht, Larkey, & Johnson, 1992). The finding indicated that perceptions of the procedural aspects such as synchrony and difficulty had a considerable impact on a satisfaction outcome in an intercultural setting. This is interesting on two accounts. First, in the study by Knapp et al. (1980), personalization was the dominant factor and accounted for by far the largest percentage of the total variance, while synchrony was a distant second followed by difficulty. This was not surprising in the context of relationships where intimacy was the main concern. In the current studies, synchrony arose to prominence in the context of initial intercultural interactions when personalization was controlled for, and was still followed by difficulty. Thus, it might be concluded with some confidence that the relative importance of each factor in the intercultural interaction process was accounted for by the current findings. These findings also provided support to the earlier suggestion that synchrony and difficulty vary with mutual familiarity at cultural/social levels more than at personal levels.

 On the other hand, common ground, the factor related to message content and topic management, did not affect the outcome of satisfaction as much. Two explanations should be entertained. First, synchrony and difficulty were aspects of interpersonal communication present in intracultural and intercultural settings alike. Synchrony and difficulty, as dimensions of intercultural interaction were conceptually consistent with the broader theorization of relational communication (Burgoon & Hale, 1984, 1987). Common ground, in contrast, might be a feature more salient in intercultural communication, reflecting influences of unique socio-cultural background and perspective including cultural upbringing and social status in cases of interethnic communication (Hecht et al. 1992).

Second, in intercultural interactions, individual's sense of satisfaction may be affected more by their perceptions of overall global fit. Synchronization and difficulty were indicative of the state of communicative relationships at different levels, while the perception of

common ground was more reflective of a single level. In an initial intercultural interaction, the first two reflect lack of familiarity at cultural, as well as, individual levels. Common ground dealt mostly with cultural level lack of familiarity. Also, synchronization contributed to both content and relationship levels of meaning in communication, while common ground mostly contributed to the content level. The above discussion highlighted the complexity of intercultural communication in face-to-face situations. More importantly, in order to fully explore intercultural communication, it was necessary to take into account both interpersonal and intercultural factors. Less predictive power did not diminish the conceptual importance of common ground in intercultural communication, but did point to the need for researchers to attend to multiple factors at multiple levels.

Results reported here have implications for studies on intergroup identity. Intergroup identity is a salient property of intergroup interaction of which intercultural communication is a subset. Identification of dimensions of intercultural perception provides an analytical tool for scholars to better understand the respective role of interrelated and interactive factors of intergroup identity, intergroup attitude/prejudice, and group similarity/familiarity (Tajfel & Turner, 1986). Lastly, the mean score of perceptions of intercultural interaction is lower in Study 2 than in Study 1. This was most likely attributable to the variation in the international partners involved. Short term-visiting students were used as partners in Study 2. It was possible that these partners were even "more strange" to our respondents than regular international students. This further indicated that the construct accurately reflected variation in the state of interactions with markedly different participants.

While solid conceptually, measurement of the perceptions of intercultural interaction construct is in need of further refinement. This is the case for the factor of common ground in particular, as it currently consists of only two solid items. Work is needed to improve measurement of this dimension. Replications are also needed with larger sample sizes for

further confirmatory factor analyses to verify the factor structure of perceptions of intercultural interaction. That the alpha was high in both studies suggested a possibility of the construct being uni-dimensional. Three factors may be construct components and not completely independent. Although not a concern in the current study, this must be taken into consideration in refinement of the instrument. In future endeavors, it may not be advisable to use the sub-scales separately.

ENDNOTES

[1]The formula to calculate s̲ value, introduced by Cattel, Balcar, Horn and Nesselroade (1969) is presented as follows.

1 = ~~(illegible formula)~~ positive salient variable

3 = negative salient variable

f_{ij} = joint frequency of variables in each of the categories above occupying cells in a 3 x 3 grid. It is the count of the same *n* variables for a factor in two studies presented ('ᵢ' count in column and 'ⱼ' count in row).

e_{ij} = expected frequency of variables in each of the categories above

n = margin totals for salient variables in column (.1, .3) and row (1., 3.)

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Table 1.

<u>Items in the Perceptions of Interaction Scale</u>

Item #   Loaded on Factor

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  2.   Our conversation was spontaneous, informal, and relaxed.   1

  <u>3.</u>   If asked, we could probably repeat back what the other said in the conversation. 1

  4.   We did a good job of clearly communicating with each other.   1

  5.   Our conversational styles seemed well coordinated with each other.   1

* 6.   We had trouble understanding each other.   3(2)

* 8.   It was difficult for us to know when the other person was serious or just joking. 2

* <u>10</u>. We might soon run out of things to talk.   3

* <u>11</u>. We had communication breakdowns.   2

* <u>12</u>. We chose our words carefully to avoid misunderstanding.   3 (2)

* 13. Our conversation was strained or awkward.   2

  <u>14</u>. We were rather free to talk about whatever happened to be brought up.   1 (3)

* <u>15</u>. We frequently changed topics, as we didn't know what to talk about.   3

  16. Due to mutual cooperation, our conversation was generally smooth flowing. 1

  <u>17</u>. Given time, we could have discussed a wide variety of topics.   1

* <u>18</u>. We sometimes could not quite follow each other in the conversation.   2

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* reversed coding

( ) loaded on another factor in Study 1

<u>underlined</u> items created for this project

Table 2

Factor Matrix For Principal Component Analysis Of Perceptions Of Interaction

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		Study 1 Factors			Study 2 Factors	
Item #	1	2	3	1	2	3

	(synchrony)	(difficulty)	(common ground)	(synchrony)	(difficulty)	(common ground)
2*	**.692**	.046	.475	**.825**	.239	.108
5*	**.628**	.322	.166	**.864**	.083	.270
3	**.798**	.024	.049	**.828**	.142	.096
4*	**.708**	.481	.081	**.788**	.259	.343
16*	**.569**	.281	.324	**.802**	.088	.229
17	**.610**	.164	.430	**.827**	.165	.181
13**	.538	**.551**	.307	.428	**.626**	.234
8**	.036	**.591**	.237	.175	**.705**	.133
11	.470	**.617**	.326	.459	**.591**	.210
18	.355	**.715**	.306	.047	**.787**	.155
6**	.280	**.817**	.011	.319	.321	.529
12	.085	.436	.234	.058	.049	**.781**
10	.210	.321	**.741**	.276	.276	**.678**
15	.044	.290	**.727**	.136	.245	**.731**
14	.242	.078	**.710**	**.785**	.326	.091

----

* part of the synchrony factor in Knapp et. al. ** part of the difficulty in Knapp et. al.

 (Loadings above .55 are in bold.)

Table 3

Perception Factors Predicting Communication Satisfaction

Variables

(in order of entry)	R^2	R^2 Change	F Change	p	Beta	Tolerance

----

synchrony	.488	.488	76.13	.000	.805	.948
difficulty	.627	.139	29.54	.000	.404	.954
common ground	.699	.072	18.57	.000	.270	.983