Measuring Intercultural Sensitivity
in Different Cultural Contexts

Wolfgang Fritz*   Antje Möllenberg
Technical University of Braunschweig

Guo-Ming Chen
University of Rhode Island

Abstract

As a main dimension of intercultural communication competence, intercultural sensitivity has gained increasing attention in different disciplines. In the United States, Chen and Starosta have developed an instrument, comprising 5 factors with 24 items, for measuring intercultural sensitivity. In this study, we tested Chen and Starosta's instrument in a German sample by using confirmatory factor analysis. Overall, the results showed that the instrument holds satisfactorily. Although the results also suggested that the operationalization of the concepts in the instrument can be further improved, the instrument as a whole is a valid one through which a culture-free scale for measuring intercultural sensitivity can be developed.

The trend towards globalization and internationalization has increased the importance of being competent in communicating with people of different cultural backgrounds. This includes the necessity to negotiate effectively in the setting of international business transactions. The trend leads to a growing need for executives and managers to learn how to act appropriately and successfully in a culturally diverse environment. However, research shows that the demand is still not sufficiently met in the business world (Fritz & Möllenberg, 1999; Fritz, Möllenberg, & Werner, 1999). One of the reasons for this is the lack of cross-cultural comparison studies by which the validity of the research results can be tested interculturally.

Among studies in this line of research, Chen and Starosta's (1996) model of intercultural communication competence gains much attention. The model is comprised of three conceptual dimensions of intercultural communication competence, including intercultural awareness, intercultural sensitivity, and intercultural adroitness. Based on this conceptual model, Chen and Starosta

(2000) further explicated the nature and components of intercultural sensitivity and developed an instrument to measure the concept. Because the study was restricted to US American sample, the purpose of the present study was then to test the instrument in a different cultural context.

Review of Literature

Research on intercultural communication competence has mainly attempted to produce models based on individual traits that relate individual attitudes and skills to some measure of interculturally successful behaviors, such as intercultural adaptation, appropriateness, and effectiveness of the interaction. For example, Gudykunst, Wiseman, and Hammer (1977), Hammer, Gudykunst, and Wiseman (1978), Abe and Wiseman (1983), Wiseman and Abe (1984), Hammer (1987, 1989), and Wiseman, Hammer, and Nishida (1989) basically employed the cross-cultural attitude approach to discriminate between cognitive, affective, and conative dimensions of intercultural communication competence. From this perspective, intercultural communication competence was conceptualized as the ability of individuals to develop a positive attitude towards the foreign culture.
In contrast, Ruben (1976, 1977, 1987), Ruben and Kealey (1979), Hawes and Kealey (1981), and Kealey (1989) followed the behavioral skills approach that emphasizes individual behaviors and skills in the process of intercultural interaction. The authors argued that behavioral effectiveness is the core criterion of intercultural communication and identified seven skills that account for interculturally competent behavior, including display of respect, interaction posture, orientation to knowledge, empathy, self-oriented role behavior, interaction management, and tolerance for ambiguity.

In addition, more recent approaches towards the study of intercultural communication competence took other components into consideration. For example, Dinges and Lieberman (1989), Parker and McEvoy (1993), and Hammer, Nishida, and Wiseman (1996) argued that the situation of the context of interaction affects the degree of intercultural communication competence. Moreover, Spitzberg and Cupach (1984, 1989), Imahori and Lanigan (1989), and Spitzberg (1997) pointed out that traits and behavioral skills of one's counterpart are equally important in the measurement of intercultural communication competence. Taken together, as Fritz, Möllenberg, and Werner (1999) argued, integrating different approaches and developing reliable and valid measures of intercultural communication competence is the foremost task for future studies in this line of research.

Chen and Starosta's Model

Chen (1990) and Chen and Starosta (1996) criticized the previous studies on intercultural communication competence as suffering from conceptual ambiguity. The authors indicated that scholars did not discriminate clearly the concept of communication competence and its related constructs. This conceptual confusion

has led to difficulty especially in the evaluation of intercultural trainings and in the measurement of intercultural communication competence (Chen & Starosta, 2000). Thus, more research on these particular constructs and their relation to competence is necessary before valid and reliable measures of intercultural communication competence can be developed.

Chen and Starosta (1996) developed a model of intercultural communication competence that integrates features of both cross-cultural attitude and behavioral skills models. According to the authors, intercultural communication competence is comprised of three dimensions: intercultural awareness, intercultural sensitivity, and intercultural adroitness. Each of these dimensions contains a set of components.

Intercultural awareness is the cognitive dimension of intercultural communication competence that refers to a person's ability to understand similarities and differences of others' cultures. The dimension includes two components: self-awareness and cultural awareness. Intercultural sensitivity is the affective dimension of intercultural communication competence that refers to the emotional desire of a person to acknowledge, appreciate, and accept cultural differences. The dimension includes six components: self-esteem, self-monitoring, empathy, open-mindedness, nonjudgmental, and social relaxation. Intercultural adroitness is the behavioral dimension of intercultural communication competence that refers to an individual's ability to reach communication goals while interacting with people from other cultures. The dimension contains four components: message skills, appropriate self-disclosure, behavioral flexibility, and interaction management (Chen & Starosta, 1996, 1998, 1999, 2000).

Intercultural Sensitivity Measurement

In order to measure the dimensions of intercultural communication competence, Chen and Starosta (2000) first developed an instrument to explore the concept of intercultural sensitivity. The empirical construction and validation of the instrument of intercultural sensitivity were conducted in three stages. First, a pre-study was administered to generate items representing the conceptual meaning of intercultural sensitivity. Then, the model was tested by exploratory factor analysis. Finally, the concurrent validity of the instrument was evaluated.

In the pre-study, 168 US American college students in communication disciplines were asked to rate the original 73-item intercultural sensitivity questionnaire for the purpose of reducing the number of items. After factor analyzing the data, 44 items with > 0.50 factor loadings were selected for the second stage in which 414 college students were asked to answer the questions. Data were analyzed in a principal axis analysis followed by oblique rotation. Five factors, formed by 24 items, with an Eigenvalue > 1, were extracted, explaining a total of 37.3% of the variance. The five factors were labeled Interaction Engagement, Respect for Cultural Differences, Interaction

Confidence, Interaction Enjoyment, and Interaction Attentiveness. The concurrent validity of the 24-item instrument of intercultural sensitivity was then evaluated against seven other valid and related instruments. The results were found satisfactory. Appendix A shows the 24-item instrument of intercultural sensitivity. Based on the results of Chen and Starosta's study, the present study tested the instrument in Germany, another cultural setting.

Method

Participants

The 24-item intercultural sensitivity questionnaire developed by Chen and Starosta was back-translated into German and administered to 541 students of business administration at the University of Mannheim, Germany. This group was then reduced by random selection to match Chen and Starosta's sample in central features. As a result, 400 German students consisted the sample for this study. Among them, 253 were female and 147 were male. The average age of the sample was 20.9 years.

Procedure and Data Analysis

In contrast to Chen and Starosta's exploratory analysis, a confirmatory approach was used in this study. The model structure developed by Chen and Starosta via exploratory factor analysis was tested in a German sample by means of confirmatory factor analysis. The confirmatory factor analysis is a method for testing hypotheses on the number of dimensions or factors of a complex construct. It is used to illustrate the interrelations between factors and the relations between factors and their indicators. As opposed to exploratory factor analysis, the confirmatory factor analysis is explicitly based on assumptions about the factor structure and the factor-indicator relationships and aims to test these assumptions. Thus, it is suitable for testing the results of exploratory factor analyses. In this study, the test was conducted in a methodically refined way by taking into consideration the measurement errors and intercorrelations between factors (Jöreskog & Sörbom, 1993). The data were analyzed by means of the LISREL program (LISREL 8) (Jöreskog & Sörbom, 1993).

The model testing was operated in the step-by-step method usually suggested for LISREL analyses (Fritz, 1992; Jöreskog & Sörbom, 1993). First, the model was specified in LISREL notation. Then the model identification was checked and its parameters were estimated. In this study, the maximum-likelihood estimation method was used. Finally, a detailed assessment of fit for the model was conducted. This final step dealt with the overall measures of model fit (i.e., overall fit) as well as measures for the fit of parts of the model (i.e., detailed fit). A careful evaluation of the model fit has to take all these aspects into account.

Results

    The results of confirmatory factor analysis in this study using the German sample show that the basic structure of Chen and Starosta's model was confirmed as the 5 factors were reproduced on the whole (see Figure 1).
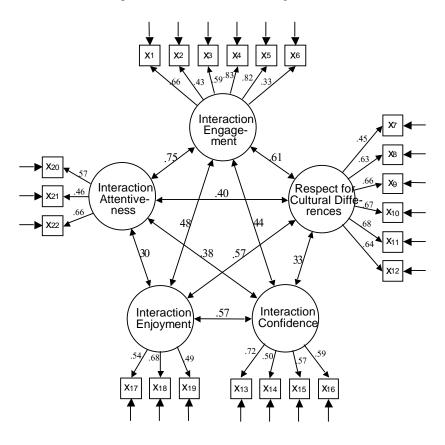

Figure 1. Standardized LISREL Solution for Chen and Starosta's Model of Intercultural Sensitivity (Confirmatory factor analysis; measurement error not shown; 29 parameters significant at .05 level, 2 parameters at .06 and 1 parameter at .07 level)

    According to the criteria for model evaluation used in confirmatory factor analysis, the overall fit of Chen and Starosta's model is acceptable in the German context (Chi square/df = 1.96; GFI = .92; AGFI = .90; RMR = .04; RMSEA

= .05). However, a detailed inspection of the parts of the model also reveals some minor shortcomings. For instance, as in the results shown in Table 1, with only one exception the factor loadings all remain above a level of .40, which often is regarded as a critical value in factor analysis. But a few of the loadings exceed this limit only to a small extent, showing that their individual reliability is not substantially high.

Table 1: Factor Loadings and Factor Reliabilities

Factor / Indicator (item)	Factor Reliability	Factor Loading
Interaction Engagement	.79	
x_1: "I am open-minded to people from different cultures" (item 13)		.66
x_2: "I often show my culturally-distinct counterpart my understanding through verbal or nonverbal cues" (item 23)		.43
x_3: "I have a feeling of enjoyment towards differences between my culturally-distinct counterpart and me" (item 24)		.59
x_4: "I enjoy interacting with people from different cultures" (item 1)		.83
x_5: "I avoid those situations where I will have to deal with culturally-distinct persons" (item 22)		.82
x_6: "I tend to wait before forming an impression of culturally-distinct counterparts" (item 11)		.33
Respect for Cultural Differences	.79	
x_7: "I don't like to be with people from different cultures" (item 7)		.45
x_8: "I think my culture is better than other cultures" (item 20)		.63
x_9: "I think people from other cultures are narrow-minded" (item 2)		.66
x_{10}: "I respect the values of people from different cultures" (item 8)		.67
x_{11}: "I respect the ways people from different cultures behave" (item 16)		.68
x_{12}: "I would not accept the opinions of people from different cultures" (item 18)		.64
Interaction Confidence	.69	

x_{13}: "I am pretty sure of myself in interacting with people from different cultures" (item 3)		.72
x_{14}: "I find it very hard to talk in front of people from different cultures" (item 4)		.50
x_{15}: "I always know what to say when interacting with people from different cultures" (item 5)		.57
x_{16}: "I can be as sociable as I want to be when interacting with people from different cultures" (item 6)		.59
Interaction Enjoyment	.59	
x_{17}: "I get upset easily when interacting with people from different cultures" (item 9)		.54
x_{18}: "I often get discouraged when I am with people from different cultures" (item 12)		.68
x_{19}: "I often feel useless when interacting with people from different cultures" (item 15)		.49
Interaction Attentiveness	.58	
x_{20}: "I try to obtain as much information as I can when interacting with people from different cultures" (item 17)		.57
x_{21}: "I am sensitive to my culturally-distinct counterpart's subtle meanings during our interaction" (item 19)		.46
x_{22}: "I am very observant when interacting with people from different cultures" (item 14)		.66

Moreover, in confirmatory factor analysis, the reliability of a composite of indicators is usually more significant than evaluating the convergent validity (Bagozzi & Baumgartner 1994). Table 1 shows the reliabilities for each composite of indicators corresponding to the factors, i.e., factor reliabilities (Fornell & Larcker, 1981). In each case, the factor reliability is close to or exceeds the level of .60 and thus indicates a satisfying degree of convergent validity within the model (Bagozzi & Baumgartner, 1994).

Because of the sufficient convergent validity for each factor and the fact that the factors show no extremely high correlation among each other, one could assume a sufficient degree of discriminant validity as well. According to a more rigorous criterion for discriminant validity developed by Fornell & Larcker (1991), the so-called average variance extracted (ρ) in the composite of indicators has to be higher than the squared correlations (φ^2) between the factors. The findings presented in Table 2 show that discriminant validity is given with one exception: the measurements of the factors "Interaction Enjoyment" and "Interaction Attentiveness" did not discriminate high enough and thus indicate that the composites of indicators need to be improved.

Table 2: Analysis of Discriminant Validity

		Interaction Engage-ment	Respect for Cultural Differences	Interaction Confidence	Interaction Enjoyment	Interaction Attentive-ness
Interaction Engagement	$\rho = .41$	•	$\varphi^2 = .37$	$\varphi^2 = .19$	$\varphi^2 = .23$	$\varphi^2 = .56$
Respect for Cultural Differences	$\rho = .39$	$\varphi^2 = .37$	•	$\varphi^2 = .11$	$\varphi^2 = .32$	$\varphi^2 = .16$
Interaction Confidence	$\rho = .36$	$\varphi^2 = .19$	$\varphi^2 = .11$	•	$\varphi^2 = .32$	$\varphi^2 = .14$
Interaction Enjoyment	$\rho = .33$	$\varphi^2 = .23$	$\varphi^2 = .32$	$\varphi^2 = .32$	•	$\varphi^2 = .09$
Interaction Attentiveness	$\rho = .32$	$\varphi^2 = .56$	$\varphi^2 = .16$	$\varphi^2 = .14$	$\varphi^2 = .09$	•

Discussion

The results of confirmatory factor analysis in this study using a German sample confirmed the validity of the overall structure of Chen and Starosta's instrument on the measurement of intercultural sensitivity. Nevertheless, the results as well indicated minor weaknesses in the operationalization of the concepts, which probably only can be resolved by using more subtle diagnostic instruments of confirmatory factor analysis. For example, the reliability of several indicators was not substantially high and the discriminant validity of the factors "Interaction Enjoyment" and "Interaction Attentiveness" was rather low.

The lack of independence for the two factors might be caused by the low Eigenvalue in Chen and Starosta's model. A possible improvement of the model for future research is to combine the two factors into a single one or to develop better measurement concepts for both. In sum, although the results show that the model can be further improved, in this study the confirmatory analysis overall indicated the applicability and usefulness of Chen and Starosta's instrument in measuring intercultural sensitivity in intercultural communication setting.

As human society moves to a global community, the demand of cultural interdependency in the macro level and intercultural communication competency in the individual level has become stronger. To live in a more culturally diverse community will become a norm of life rather than an exception for people on the earth. It is in this sense we see the importance for scholars to clarify the concept of intercultural communication competence and further develop reliable and valid instruments for measuring the concept in order to help people better adjust to the rapid change of the world and live a successful and productive life.

Chen and Starosta's studies (1996, 1998, 1999, 2000) systematically aimed to achieve this goal by reconceptualizing the concept of intercultural

communication competence that is comprised of three dimensions, including intercultural awareness, intercultural sensitivity, and intercultural adroitness. The authors also developed instruments to measure these dimensions. This study tested the Intercultural Sensitivity Instrument developed by the authors in a different cultural setting and overall found that, although there is space for improvement, the instrument is valid. While future research can further refine the instrument, we found that for practical purposes, in addition to its value in justifying the efforts favoring culture-general approaches, the instrument can serve as a possible starting point for the development of diagnostic instruments for the selection of culturally sensitive personnel.

*Wolfgang Fritz is professor of Marketing at the Technical University of Braunschweig, Germany, and at the University of Vienna, Austria. Antje Möllenberg is instructor of Marketing at the Technical University of Braunschweig. Guo-Ming Chen is professor of Communication Studies at the University of Rhode Island. This study was supported by the Professor-Otto-Beisheim-Stiftung, Munich, Germany.

References

Abe, H., & Wiseman, R. L.
>   1983   A cross-cultural confirmation of the dimensions of intercultural effectiveness. *International Journal of Intercultural Relations, 7*, 53-69.

Bagozzi, R. P., & Baumgartner, H.
>   1994   The evaluation of structural equation models and hypothesis testing. In R. P. Bagozzi (ed.), *Principles of marketing research (pp. 386-422).* Cambridge, MA: Blackwell Publishers.

Chen, G. M.
>   1990   Intercultural communication Competence: Some perspectives of research. *The Howard Journal of Communications, 2*, 243-261.

Chen, G.M., & Starosta, W. J.
>   1996   Intercultural communication competence: a synthesis. *Communication Yearbook, 19*, 353-383.
>   1998   A review of the concept of intercultural sensitivity. *Human Communication, 1*, 1-16.
>   1999   A review of the concept of intercultural awareness. *Human CommunicatIon, 2*, 27-54.
>   2000   The development and validation of the intercultural communication sensitivity scale. *Human Communication, 3*, 1-15.

Dinges, N. G., & Lieberman, D. A.
    1989   Intercultural communication competence: coping with stressful work situations. *International Journal of Intercultural Relations, 13*, 371-385.

Fornell, C., & Larcker, D. F.
    1981   Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18, 39-50.

Fritz, W.
    1992.   *Marktorientierte Unternehmensführung und Unternehmenserfolg.* Stuttgart: Schäffer-Poeschel.

Fritz, W., & Möllenberg, A.
    1999   *Interkulturelle Kompetenz als Gegenstand internationaler Personalentwicklung, Bericht des Instituts für Wirtschaftswissenschaften.* Braunschweig: Technical University.

Fritz, W., Möllenberg, A., & Werner, T.
    1999   *Die interkulturelle Kompetenz von Managern - Ihre Bedeutung für die Praxis und Perspektiven für die Forschung, Bericht des Instituts für Wirtschaftswissenschaften.* Braunschweig: Technical University.

Gudykunst, W. B., Wiseman, R. L., & Hammer, M. R.
    1977   An analysis of an integrated approach to cross-cultural training. *International Journal of Intercultural Relations, 1*, 99-110.

Hammer, M. R.
    1987   Behavioral dimensions of intercultural effectiveness: a replication and extension. *International Journal of Intercultural Relations, 11*, 65-88.
    1989   Intercultural communication competence. In M. K. Asante & W. B. Gudykunst (Eds), *Handbook of international and intercultural communication* (pp. 247-260*)*. Newbury Park, CA: Sage.

Hammer, M. R., Gudykunst, W. B., & Wiseman, R. L.
    1978   Dimensions of intercultural effectiveness: an exploratory study. *International Journal of Intercultural Relations, 2*, 382-393.
    1996   The influence of situational prototypes on dimensions of intercultural communication competence. *Journal of Cross-Cultural Psychology, 27*, 267-282.

Hawes, F., & Kealey, D. J.
    1981   An empirical study of Canadian technical assistance. *International Journal of Intercultural Relations, 5*, 239-258.

Imahori, T. T., & Lanigan, M. L.
    1989   Relational model of intercultural communication competence. *International Journal of Intercultural Relations, 13*, 241-268.

Jöreskog, K. G., & Sörbom, D.
    1988   *LISREL 7*. Chicago, Ill: SPSS Inc.

1993   *LISREL 8*, Hillsdale, NJ: Scientific Software International Inc.
Kealey, D. J.
   1989   A study of cross-cultural effectiveness: theoretical issues, practical
            applications. *International Journal of Intercultural Relations, 13*,
            349-370.
Parker, B., & McEvoy, G. M.
   1993   Initial examination of a model of intercultural adjustment.
            International Journal of Intercultural Relations, 17, 355-379.
Ruben, B.D
   1976   Assessing communication competency for intercultural adaptation.
            Group & Organization Studies, 1, 334-354.
   1977   Guidelines for cross-cultural communication effectiveness. *Group &
            Organization Studies, 2*, 470-479.
Ruben, B. D., & Kealey, D. J.
   1979   Behavioral assessment of communication competency and the
            prediction of cross-cultural adaptation. *International Journal of
            Intercultural Relations, 3*, 15-48.
Spitzberg, B. H.
   1997   A model of intercultural communication competence. In L. A.
            Samovar & R. E. Porter (Eds.), *Intercultural communication: A
            reader* (pp. 379-391).   Belmont, CA: Wadsworth.
Spitzberg B. H., & Cupach, W. R.
   1984   *Interpersonal communication competence*. Beverley Hills, CA: Sage.
   1989   *Handbook of interpersonal competence research*. New York:
            Springer.
Wiseman, R. L., & Abe, H.
   1984   Finding and explaining differences: a reply to Gudykunst and
            Hammer. *International Journal of Intercultural Relations, 8*, 11-16.
Wiseman, R. L., Hammer, M. R., & Nishida, H.
   1989   Predictors of intercultural communication competence. *International
            Journal of Intercultural Relations, 13*, 349-370.

Appendix A. Intercultural Sensitivity Scale

Below is a series of statements concerning intercultural communication. There are no right or wrong answers. Please work quickly and record your first impression by indicating the degree to which you agree or disagree with the statement. Thank you for your cooperation.

 5 = strongly agree, 4 = agree, 3 = uncertain, 2 = disagree, 1 = strongly disagree
 (Please put the number corresponding to your answer in the blank before the statement)

____   1. I enjoy interacting with people from different cultures.
____   2. I think people from other cultures are narrow-minded.
____   3. I am pretty sure of myself in interacting with people from different cultures.
____   4. I find it very hard to talk in front of people from different cultures.
____   5. I always know what to say when interacting with people from different cultures.
____   6. I can be as sociable as I want to be when interacting with people from different
         cultures.
____   7. I don't like to be with people from different cultures.
____   8. I respect the values of people from different cultures.
____   9. I get upset easily when interacting with people from different cultures.
____10. I feel confident when interacting with people from different cultures.
____11. I tend to wait before forming an impression of culturally-distinct counterparts.
____12. I often get discouraged when I am with people from different cultures.
____13. I am open-minded to people from different cultures.
____14. I am very observant when interacting with people from different cultures.
____15. I often feel useless when interacting with people from different cultures.
____16. I respect the ways people from different cultures behave.
____17. I try to obtain as much information as I can when interacting with people from
         different cultures.
____18. I would not accept the opinions of people from different cultures.
____19. I am sensitive to my culturally-distinct counterpart's subtle meanings during our
         interaction.
____20. I think my culture is better than other cultures.
____21. I often give positive responses to my culturally-different counterpart during our
         interaction.
____22. I avoid those situations where I will have to deal with culturally-distinct persons.
____23. I often show my culturally-distinct counterpart my understanding through verbal
         or nonverbal cues.
____24. I have a feeling of enjoyment towards differences between my culturally-distinct
         counterpart and me.

(Items 2, 4, 7, 9, 12, 15, 18, 20, and 22 are reverse-coded before summing the 24 items. Interaction Engagement items are 1, 11, 13, 21, 22, 23, and 24, Respect for Cultural Differences items are 2, 7, 8, 16, 18, and 20, Interaction Confidence items are 3, 4, 5, 6, and 10, Interaction Enjoyment items are 9, 12, and 15, and Interaction Attentiveness items are 14, 17, and 19.)