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The Development and Validation of the Intercultural Sensitivity Scale

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Abstract

The present study developed and assessed reliability and validity of a new instrument, the Intercultural Sensitivity Scale (ISS). Based on a review of the literature, 44 items thought to be important for intercultural sensitivity were generated. A sample of 414 college students rated these items and generated a 24-item final version of the instrument which contains five factors. An assessment of concurrent validity from 162 participants indicated that the ISS was significantly correlated with other related scales, including interaction attentiveness, impression rewarding, self-esteem, self-monitoring, perspective taking, intercultural effectiveness, and intercultural communication attitude. Potential limitations of the study were discussed as well.

The Development and Validation of the Intercultural Sensitivity Scale

Introduction

With increased attention paid to intercultural sensitivity in the multicultural and globalizing society throughout the past decades, confusions relating to the concept have increased as well. As a component of intercultural communication competence, intercultural sensitivity is not yet widely understood. Chen and Starosta (1996, 1998) pointed out that the main problem of the confusion is embedded in the long-time misperception of three concepts: intercultural sensitivity, intercultural awareness, and intercultural communication competence. According to Chen and Starosta (1996), the three are closely related but separate concepts. Intercultural communication competence is an umbrella concept which is comprised of cognitive, affective, and behavioral ability of interactants in the process of intercultural communication. In other words, the cognitive aspect of intercultural communication competence is represented by the concept of intercultural awareness that refers to "the understanding of culture conventions that affect how we think and behave" (Chen & Starosta, 1998-9). The affective aspect of intercultural communication competence is represented by the concept of intercultural sensitivity that refers to the subjects' "active desire to motivate themselves to understand, appreciate, and accept differences among cultures" (Chen & Starosta, 1998, p. 231). And the behavioral aspect of Intercultural communication competence is represented by the concept of intercultural adroitness that refers to "the ability to get the job done and attain communication goals in intercultural interactions" (Chen & Starosta, 1996, p. 367).

The confusion of these concepts directly impacts the evaluation of intercultural training programs. Because intercultural training programs such as affective training, cognitive training, behavioral training, self-awareness training, cultural awareness training, and area simulation training, aim to help participant develop an appreciation and understanding of cultural differences and acquire abilities of awareness and sensitivity towards cultural stimuli and interactional skills (Brislin, Cushner, Cherrie, & Yong, 1986; Gudykunst, Guzley, & Hammer, 1996; Landis & Bhagat, 1996; Seidel, 1981), the inability to clarify the ambiguity among the three concepts has led to failure in developing valid and reliable measures for evaluating the effect of intercultural training programs. Thus, before a valid and reliable measure is developed, intercultural communication scholars first have to clearly conceptualize these concepts.

Bennett (1984) treated intercultural sensitivity as interactants' ability to transform themselves not only affectively but also cognitively and behaviorally from denial stage to integration stage in the developmental process of intercultural communication. In other words, interculturally sensitive persons are able to reach the level of dual identity and enjoy cultural differences by gradually overcoming the problems of denying or concealing the existence of cultural differences and attempting to defend their own world views, and moving to develop empathic ability to accept and adapt cultural differences. Bhawuk and Brislin (1992) perceived intercultural sensitivity from the perspective of individualism and collectivism and proposed a mea-

sure by arguing that intercultural sensitivity consists of three elements, including the understanding of cultural behaviors, open-mindedness towards cultural differences, and behavioral flexibility in host culture. However, Kapoor and Comadena (1996) found that Bhawuk and Brislin's measure was relatively unreliable due to the ambiguity of tone and directions of items used in the scales. Blue and Kapoor (1996-7) instead approached intercultural sensitivity from the perspective of universal values in an individualist-collectivist setting proposed by Schwartz and Bilsky (1987, 1990). The results were not satisfactory either.

Chen and Starosta (1997) argued that in order to develop a valid measure of intercultural sensitivity scholars need to confine the concept within the affective aspect of intercultural communication in order to distinguish it from intercultural awareness (the cognitive aspect of intercultural communication) and intercultural adroitness (the behavioral aspect of intercultural communication). According to the authors, successful intercultural communication demands interactants' ability of intercultural awareness by learning cultural similarities and differences, while the process of achieving awareness of cultural similarities and differences is enhanced and buffered by the ability of intercultural sensitivity. Together with intercultural adroitness that concerns the behavioral effectiveness and appropriateness, the three concepts form the foundation of intercultural communication competence. The purpose of this study was to develop and validate a scale that assesses intercultural sensitivity.

Conceptualization of Intercultural Sensitivity

As the affective dimension of intercultural communication competence, intercultural sensitivity can be treated as a mindset that helps individuals distinguish how their counterparts differ in behavior, perceptions, or feelings in the process of intercultural communication. In other words, interculturally sensitive persons are not only conscious in interactions, but also able to appreciate and respect the ideas exchanged, no matter how idiosyncratic they are, and to accept personal complexity (Bronfenbrener, Harding, & Gallwey, 1958; Hart & Burks, 1972). Thus, Chen and Starosta (1997) conceptualized intercultural sensitivity as a person's "ability to develop a positive emotion towards understanding and appreciating cultural differences that promotes appropriate and effective behavior in intercultural communication" (p. 5). Chen and Starosta further specified six elements that account for intercultural sensitivity: Self-esteem, self-monitoring, open-mindedness, empathy, interaction involvement, and non-judgment.

With an optimistic outlook and confidence in interaction, high self-esteem persons not only establish a sense of self-value and self-worth, but also more able to deal with the feeling of alienation, frustration, and stress caused by the ambiguous situation in the process of intercultural communication. This, in turn, will lead the person to develop a positive motivation and emotion to recognize and respect situational differences in intercultural encounters.

Self-monitoring, the ability to detect situational constraints in order to regulate and change one's behaviors for being competent in communication, is particularly related to sensitivity regarding the appropriateness of one's social behaviors

and self-presentation (Snyder, 1974). Studies have concluded that in the process of intercultural interaction high self-monitors tend to be more attentive, other-oriented, more sensitive to the expressions of their culturally different counterparts, and more able to use situational cues to guide their self presentation (Berger & Douglas, 1982; Spitzberg & Cupach, 1984).

Open-minded persons are willing to explain themselves and accept their counterparts' explanation in intercultural interaction. They possess an internalized and broadened concept of the environment that make them sensitive to the multiple forms ways and multiple realities of intercultural communication due to the involvement of cultural differences (Adler, 1977; Bennett, 1986). The willingness to recognize, accept, and appreciate diverse views and ideas embedded in open-mindedness cultivates the ability of sensitivity that shows one's consideration for others, being receptive to others' needs and differences, and being able to translate emotions into actions in intercultural communication (Smith, 1966).

Empathy, also called telepathic or intuition sensitivity (Gardner, 1962), refers to the ability to step into one's culturally different counterparts' mind to develop the same thoughts and emotions in interaction. The concept has been considered a core component of intercultural sensitivity by scholars (e.g., Barnlund, 1988; Bennett, 1986; Chen & Starosta, 1997; Gudykunst, 1993; Yum, 1989). Empathic persons have been found to be more concerned for others' feelings and reactions, more accurate in observing the internal states of their counterparts, and more able to show affect displays, active listening, and understanding in intercultural communication situation (Davis, 1983; Parks, 1994). In other words, the more empathic one is, the more interculturally sensitive one will be.

Cegala (1981, 1984) indicated that interaction involvement represents a person's sensitivity in interaction. Interaction involvement comprises three concepts that are related the ability of sensitivity: responsiveness, attentiveness, and perceptiveness. Interculturally sensitive persons tend to be more responsive, attentive, and perceptive that enables them to better understand messages and take appropriate turns in intercultural interaction. In other words, people with interaction involvement ability tend to be interculturally sensitive enough to deal with conversational procedure and maintain an appropriate interaction (Spitzberg & Cupach, 1984).

Finally, non-judgment reflects the quality of a sensitive person by allowing oneself to sincerely listen to one's culturally different counterparts, instead of jumping into conclusion without sufficient information. Being non-judgmental is equivalent to intercultural sensitivity by which one can enjoy interacting and establishing relationship with people with different cultural backgrounds (Fiedler, Mitchell, & Triandis, 1970; Randolph, Landis, & Tzeng, 1977).

Initial Development of Items for Intercultural Sensitivity

Based on the conceptualization, the authors developed 73 items that represent the empirical indicators of the six components for the measurement of intercultural sensitivity. A five-point Likert scale was used to respond to each item: 5 = strongly agree, 4 = agree, 3 = uncertain, 2 = disagree, and 1 = strongly disagree. In order to

reduce the items of the measure 168 freshmen in the basic courses of communication studies were asked to answer the questions. Forty-four items with $> .50$ loading were used for the purpose of scale construction in this study. Table 1 shows the items.

Table 1. Items for Intercultural Sensitivity Measure

1. I am pretty sure of myself in interacting with people from different cultures.
2. I find it very hard to talk in front of people from different cultures.
3. I always know what to say when interacting with people from different cultures.
4. I can be as sociable as I want to be when interacting with people from different cultures.
5. I often feel happy about interacting with people from different cultures.
6. I don't like to be with people from different cultures.
7. I feel shy when being with people from different cultures.
8. I get upset easily when interacting with people from different cultures.
9. I know my culturally-distinct counterpart is interested in my point of view during our interaction.
10. I often get discouraged when I am with people from different cultures.
11. I am aware of when I have hurt my culturally-distinct counterpart's feelings during our interaction.
12. I often feel useless when interacting with people from different cultures.
13. I can tell when I have upset my culturally-distinct counterpart during our interaction.
14. I think my culture is better than other cultures.
15. I can tell when my culturally-distinct counterpart is paying attention to what I am saying.
16. I feel discouraged when people from different cultures disagree with me.
17. I think people from other cultures are narrow-minded.
18. I respect the values of people from different cultures.
19. I respect the ways people from different cultures behave.
20. I would not accept the opinions of people from different cultures.
21. I act naturally in a culturally different group.
22. I find it is difficult to disclose myself to people from different cultures.
23. I get embarrassed easily when interacting with people from different cultures.
24. I find it is easy to talk to people from different cultures.
25. I have a problem knowing my culturally-distinct counterpart's motives during our interaction.
26. I try to obtain as much information as I can when interacting with people from different cultures.
27. I often deny the existence of cultural differences among people.
28. I am sensitive to my culturally-distinct counterpart's subtle meanings during our interaction.
29. I am very observant when interacting with people from different cultures.
30. I find it is not easy for me to make friends with people from different cultures.
31. I am keenly aware of how my culturally-distinct counterpart perceives me during our interaction.
32. I am not willing to join a group discussion with people from different cultures.
33. I often give positive responses to my culturally different counterpart during our interaction.
34. I feel confident when interacting with people from different cultures.

35. I am open-minded to people from different cultures.
36. I have a problem sensing what is inside my culturally-distinct counterpart's mind during our interaction.
37. I often appreciate different views raised by people from different cultures.
38. I find it is difficult to reach mutual understanding with people from different cultures.
39. I often show my culturally-distinct counterpart my understanding through verbal or nonverbal cues.
40. I often sincerely listen to my culturally-distinct counterpart during our interaction.
41. I have a feeling of enjoyment towards differences between my culturally-distinct counterpart and me.
42. I enjoy interacting with people from different cultures.
43. I avoid those situations where I will have to deal with culturally-distinct persons.
44. I tend to wait before forming an impression of culturally-distinct counterparts.

Study 1

The goal of the first study was to determine the factor structure of the 44-item version of the intercultural sensitivity scale.

Method

Participants. Participants were 414 college students, enrolled in communication basic courses. Among them, 152 were males and 262 were females. The average age of the participants was 20.65.

Materials and Procedure. Participants completed the 44-item version of intercultural sensitivity scale during the mid-semester class. The average time for completing the test was about 10-13 minutes.

Results

In order to generate the factors of intercultural sensitivity a factor analysis was performed in this study. Table 2 reports the results of the principal axis factor analysis. Five factors with eigenvalues of 1.00 or higher were extracted for the 44 items of intercultural sensitivity. These factors accounted for 37.3% of the variance. Items having loadings of at least .50 with secondary loadings no higher than .30 were included in the scale.

Table 2. Factor Analysis and Loadings for the Intercultural Sensitivity Scale

Item	Factor Loading
Factor 1 – Interaction Engagement (22.8%)	
41. I have a feeling of enjoyment towards differences between my culturally-distinct counterpart and me.	.70
43. I avoid those situations where I will have to deal with culturally-distinct persons.	.66
42. I enjoy interacting with people from different cultures.	.65
44. I tend to wait before forming an impression of culturally-distinct counterparts.	.53
33. I often give positive responses to my culturally different counterpart during our interaction.	.52
39. I often show my culturally-distinct counterpart my understanding through verbal or nonverbal cues.	.52
35. I am open-minded to people from different cultures.	.51
Factor 2 - Respect of Cultural Differences (5.2%)	
19. I respect the ways people from different cultures behave.	.68
18. I respect the values of people from different cultures.	.67
20. I would not accept the opinions of people from different cultures.	.62
17. I can tell when I have upset my culturally-distinct counterpart during our interaction.	.60
6. I don't like to be with people from different cultures.	.56
14. I think my culture is better than other cultures.	.50
Factor 3 – Interaction Confidence (3.9%)	
1. I am pretty sure of myself in interacting with people from different cultures.	.66
34. I feel confident when interacting with people from different cultures.	.62
3. I always know what to say when interacting with people from different cultures.	.60
2. I find it very hard to talk in front of people from different cultures.	.50
4. I can be as sociable as I want to be when interacting with people from different cultures.	.50
Factor 4 – Interaction Enjoyment (3.0%)	
10. I often get discouraged when I am with people from different cultures.	.67
8. I get upset easily when interacting with people from different cultures.	.56
12. I often feel useless when interacting with people from different cultures.	.52
Factor 5 – Interaction Attentiveness (2.3%)	
29. I am very observant when interacting with people from different cultures.	.63
26. I try to obtain as much information as I can when interacting with people from different cultures	.55
28. I am sensitive to my culturally-distinct counterpart's subtle meanings during our interaction	.52

The first factor accounted for 22.8% of the common variance and had an eigenvalue of 10.03. Six items, including 33, 35, 39, 41, 42, 43, and 44, were clustered in this factor. Most of these items were concerned with participants' feeling of participation in intercultural communication. This factor was labeled Interaction Engagement.

The second factor accounted for 5.2% of the common variance and had an eigenvalue of 2.30. Six items were, including 06, 14, 17, 18, 19, and 20, were included in this factor. These items are mainly about how participants orient to or tolerate their counterparts' culture and opinion. This factor was labeled Respect for Cultural Differences.

The third factor accounted for 3.9% of the common variance and had an eigenvalue of 1.73. Five items had a significant loading on the factor: 01, 02, 03, 04, and 34. These items are concerned with how confident participants are in the intercultural setting. This factor was labeled Interaction Confidence.

The fourth factor accounted for 3.0% of the common variance and had an eigenvalue of 1.33. Three items significantly loaded in this factor: 08, 10, and 12. These items deal with participants' positive or negative reaction towards communicating with people from different cultures. This factor was labeled Interaction Enjoyment.

The last factor accounted for 2.3% of the common variance and had an eigenvalue of 1.00. The factor is comprised of three items: 26, 28, and 29. These items are concerned with participants' effort to understand what is going on in intercultural interaction. The factor was labeled Interaction Attentiveness.

Study 2

The goal of the second study was to evaluate the concurrent validity of the Intercultural Sensitivity Scale (ISS) with related measures. Although five factors, containing 24 items, were extracted from the analysis, they all represent the empirical indicators of the concept of intercultural sensitivity. Thus, the 24 items were treated together as a measure for the concurrent validity test.

Method

Participants. One hundred and sixty two students in communication basic courses participated in this study. Among them, 66 were males and 96 were females. The average age of the participants was 19.46.

Materials and Procedure. Participants completed the 24-item version of ISS during the semester of the class (see Appendix A). Higher scores of this measure are suggestive of being more intercultural sensitive. The Cronbach alpha reliability coefficient of this scale was .86.

Participants also completed the following measures: a seven-item Interaction Attentiveness Scale (Cegala, 1981), a 10-item Impression Rewarding Scale (Wheless & Duran, 1982), a 10-item Self-Esteem Scale (Rosenberg, 1965), a 13-item Self-Monitoring Scale (Lennox & Wolfe, 1984), a 14-item Perspective Taking Scale (Davis, 1996), a revised 13-item Intercultural Effectiveness Scale (Hammer, Gudykunst, & Wiseman, 1978), and a 22-item Intercultural Communication Attitude Scale (Chen, 1993). These instruments were selected for the test because of their plausible relationship, based on the literature review, with the concept of intercultural sensitivity.

The Interaction Attentiveness Scale is part of Cegala's interaction involvement instrument which was designed to describe social behaviors related to personal ability of attentiveness and perceptiveness in interactions. Higher scores of the Interaction Attentiveness Scale are suggestive of paying more attention in the interaction. It increases interactants' sensitivity ability by better receiving and understanding messages. In other words, interculturally sensitive interactants tend to know how to structure and maintain a conversation by appropriately handling the procedural aspect of interaction (Spitzberg & Cupach, 1984). Thus, it was predicted that significant relationship would exist between Interaction Attentiveness Scale and ISS. The reliability coefficient of the scale in this study was .72.

Wheless and Duran's Impression Rewarding Scale was designed to assess individuals' cognitive and behavioral ability to perceive socio-interpersonal relationships in order to adjust their behaviors in interactions. It was found that high impression rewarding persons tend to be more attentive, sensitive, and competent in the process of communication (Cupach & Spitzberg, 1983; Duran, 1983). Thus, a positive correlation between the Impression Rewarding and ISS would be expected. The reliability coefficient of the Impression Rewarding Scale in this study was .90.

Rosenberg's Self-Esteem Scale was designed to measure the self-acceptance aspect of self-esteem. A sense of self-value is critical for individuals to cope with psychological stress and alienation in the process of intercultural communication. It is self-esteem "that enhances the positive emotion towards accurately recognizing and respecting the situational differences in intercultural interactions" (Chen & Starosta, 1997, p. 8). A positive correlation between the self-esteem scale and ISS was then expected. The reliability coefficient of the Self-Esteem Scale in this study was .85.

Lennox and Wolfe's Self-Monitoring Scale was designed to assess a person's ability to modify his/her own self-presentation and a person's sensitivity to expressive behaviors of others in interactions. It was found that persons with high self-monitoring were more attentive, other-oriented, more adaptable to diverse communication situations, and tend to be more sensitive to the expressions of their counterparts in intercultural communication (Gudykunst, Yang, & Nishida, 1987; Spitzberg & Cupach, 1984). Thus, a positive correlation between the Self-Monitoring Scale and ISS would be expected. The reliability coefficient of the Self-Monitoring Scale in this study was .79.

David's Perspective Taking Scale was used to tap a person's "tendency to spontaneously adopt the psychological point of view of others in everyday life" (p. 57). In other words, it assesses the interactants' ability of empathy. Scholars have pointed out that empathy is one of the central elements for intercultural sensitivity. For example, Barnlund (1988), Bennett (1979), Davis (1983), and Hart, Carlson, and Eadie (1980) found that interculturally sensitive persons were able to look for communication symbols to share their counterparts' experiences, show more concern for their counterparts' reactions and feelings, and were more flexible in adopting different roles as required by the new situations. Therefore, it is expected that a significant relationship existed between Perspective Taking Scale and ISS. The reliability coefficient of the Perspective Taking Scale in this study was .81.

Finally, the 13-item Intercultural Effectiveness Scale was originated from the questionnaire developed by Hammer, Gudykunst, and Wiseman (1978). Only those with $>.50$ loading were included in the present scale. The scale was used to assess interactants' ability for effective functioning in another culture. It especially focused on an individual's ability to deal with psychological stress, to effectively communicate, and to establish interpersonal relationships in the process of intercultural communication. Chen's (1993) 22-item Intercultural Communication Attitude Scale was designed to measure individuals' perception on different aspects of intercultural communication. It was predicted that individuals scoring high in ISS would also score high in both Intercultural Effectiveness Scale and Intercultural Communication Attitude Scale. In other words, interculturally sensitive persons were predicted to be more effective in intercultural interactions and to show positive attitude towards intercultural communication events. The reliability coefficient for Intercultural Effectiveness Scale was .87, and .84 for Intercultural Communication Attitude Scale.

Results

In order to find out the correlation between ISS and the seven related measures, Pearson product-moment correlations were computed. Table 3 presents the results. It was found that significant correlation exists between ISS and all the seven measures at the $p < .05$ level, with values ranging from $r = .17$ to $r = .74$.

Table 3. Correlations of ISS with Other Measures

Scale	r
Interaction Attentiveness Scale	.20*
Impression Rewarding Scale	.41*
Self-Esteem Scale	.17*
Self-Monitoring Scale	.29*
Perspective Taking Scale	.52*
Intercultural Effectiveness Scale	.57*
Intercultural Communication Attitude Scale	.74*

* $p < .05$.

Discussion

The primary goal of this study was to develop and validate a scale that measures the concept of intercultural sensitivity. The exploratory factor analysis on one sample generated a 24-item intercultural sensitivity scale with five factors: interaction engagement, respect for cultural differences, interaction confidence, interaction enjoyment, and interaction attentiveness. Together, the scale demonstrated high internal consistency with .86 reliability coefficient.

As predicted, the moderate correlations between the ISS and other related measures provide support for the validity of the inventory. The results indicated that interculturally sensitive individuals not only were more attentive and empathic, but also tended to be high self-esteem and self-monitoring persons who knew how to reward impression in the process of intercultural communication. The results also provided evidence that interculturally sensitive persons were more effective in intercultural interaction and showed more positive attitude towards intercultural communication.

Finally, three potential limitations of the study need to be noted. First, future research needs to examine the usefulness of the ISS in an expanded population. Because the samples used in the present studies were mainly white college students in a public university, it is unclear how scores from other samples, e.g., sojourners, would affect the properties of the scale. In addition, the factor structure that emerged accounted for less than 40% of the variance. This suggests that other unidentified sources, such as age, sex, and educational level, may as well contribute to the variance. Future research should also aim to identify other sources of variance. Lastly, replication of the ISS factor structure using a second sample and further studies for addressing the construct validity of the factor scores are also warranted.

In conclusion, a 24-item instrument was developed to measure intercultural sensitivity. An overall score of the scale can be computed, with higher scores on the ISS suggesting higher level of sensitivity in intercultural interaction. The ISS has demonstrated strong reliability and appropriate concurrent validity. While further research is needed to replicate the properties of the ISS, the scale shows promise for use as a measure of intercultural sensitivity.

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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.

Note. 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.