The effects of cultural awareness on nonverbal perceptual accuracy:

British and Japanese training programmes

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Abstract

Nonverbal perception training was carried out with British and Japanese university students. The main aim of the training was to examine whether increasing cultural awareness in nonverbal communication styles leads to an improvement in within- and cross-cultural perceptual accuracy. The perceptual assessment was carried out using the British and Japanese Social Perception Task (BJSPT) which is based on the Interpersonal Perception Task (IPT) (Costanzo & Archer, 1989). The results showed that the methods used in the training sessions were effective in improving cross-cultural perceptual accuracy. The British training group made more improvement in the perception of Japanese scenes than British scenes, while the Japanese training groups made more improvement on British scenes than Japanese scenes. The different skills involved in within- and cross-cultural perception are discussed in the light of the results.

Keywords: Cultural awareness, Nonverbal communication, Cross-cultural perception training, Perceptual accuracy, British and Japanese study.

Intercultural communication has become more common in recent years with increases in immigration, world travel and international business and the advancement of telecommunication technologies. At the same time, miscommunication between cultures and resulting misunderstandings seem to be high (LeBaron, 2003; Ting-Toomey & Oetzel, 2001). Obviously there is an increasing need for people to acquire necessary knowledge and skills and appropriate attitudes to achieve successful intercultural communication. In this context, various forms of intercultural training programmes have been devised (e.g., Brislin & Pedersen, 1976; Fiedler, Mitchell & Triandis, 1971). Pruegger and Rogers (1994) described intercultural training as being "concerned with increasing our ability to communicate with culturally diverse people and monitoring and adjusting our behaviour to deal effectively with those of different cultures" (p. 370). The importance of increasing "cultural awareness" has been emphasised by many researchers (e.g., Brislin, 1990; Chen & Starosta, 1996; Triandis, 1990). Brislin and Yoshida (1994) explained that becoming aware of culture and cultural differences would help people to monitor their ethnocentrism, to respect and be sensitive toward culturally different others, and also to become comfortable with the differences.

The methods used for intercultural training can be summarised as follows (Landis & Brislin, 1983): (1) information-oriented training, such as lectures; (2) attribution training - aims at helping trainees to make isomorphic attributions by using such materials as the "culture assimilator" (e.g., Brislin, Cushner, Cherrie & Young, 1986; Cushner & Brislin, 1996); (3) cultural awareness training - helps trainees to develop understanding of other cultures by making them recognise their own cultural values and the differences with others; (4) cognitive behavioural training - teaches trainees the reward and punishment systems of another culture by using such methods as modelling and role-plays; (5) interactive training - aims at familiarising trainees with the target culture through discussions or role-plays with experienced sojourners or target culture representatives; (6) experiential training - involves some form of participant-oriented activities such as field trips, cultural simulations and role-plays. The examination of these methods shows that some aspects of communication, such as expressive behaviours and attribution, have been emphasised more than others, such as perception.

Person perception can be seen as involving four temporal phases - a cue selection phase, an interpretative inference phase, an extended inference phase and an anticipatory phase or verbal report phase (Livesley & Bromley, 1973). Culture extends its influence throughout all phases, firstly by controlling incoming information to our perceptual systems and, secondly by affecting interpretation of information such as value judgements and attribution process. Thus, the examination of cross-cultural perception skills has to be conducted by investigating how people take in information and how they interpret it in various contexts.

In within-cultural research, several person perception materials have been devised (e.g., Costanzo & Archer, 1989; Magill-Evans, Koning, Cameron-Sadava & Manyk, 1995; Matsumoto & Ekman, 1988; Rosenthal, Hall, DiMatteo, Rogers & Archer, 1979). A number of successful attempts have also been made to improve people's perceptual accuracy (Costanzo, 1992; Davitz, 1964; deTurck, Harszlak, Bodhorn & Texter, 1990; Ekman & Friesen, 1974; Jecker, Maccoby & Breitrose 1965; Rosenthal *et al*., 1979; Zuckerman, Koestner & Alton, 1984; Zuckerman, Koestner & Colella, 1985). Most of this training is concerned with the perception of emotion expressions or deceptive behaviours; the results suggest that practice in observing others' behaviours or accuracy feedback can improve people's perceptual sensitivity (Costanzo, 1992).

For example, in order to examine the effectiveness of perception training, Costanzo compared three groups: a no-training group; a lecture group (provided with a lecture on verbal and nonverbal behaviour); and a practice group (given the same information as the lecture group but which also went through a practice session using video-clips). His results showed that practice in identifying relevant cues in interaction can significantly improve perceptual accuracy. Acquiring information alone increased confidence on performance but not perceptual accuracy. The IPT (Costanzo & Archer, 1989) used in his study differs from previous studies in four main aspects: (1) it contains multiple-communication cues (both nonverbal and verbal); (2) naturalistic behaviours are presented, not posed behaviours as in most other studies; (3) communication cues are provided in various interpersonal contexts; (4) it is based on objective criteria for judgements of accuracy.

In order to carry out cross-cultural perception assessment and training, the process of person perception needs to be examined. To do this, multiple communication cues are best presented in a naturalistic manner. Use of spontaneous communication cues is also necessary to examine perceptual sensitivity as it occurs in everyday life. Typically, only posed cues have been used to assess perceptual sensitivity, despite the important differences which exist between spontaneous and posed nonverbal behaviour (Bull, 2002). Finally, in order to examine the effects of cultural expectations, communication cues need to be presented in different social contexts.

In this study, nonverbal perception training was carried out with British and Japanese university students. The assessment and training materials used were based on the IPT; however, contrary to the IPT which uses only US encoders, the task in this study used both British and Japanese encoders. By using encoders from both nationalities it was possible both to compare within- and cross-cultural perception and to assess the accuracy of British and Japanese decoders. The main aim of the training sessions was to examine whether increasing cultural awareness in nonverbal communication styles helps to improve within- and cross-cultural perceptual accuracy.

Method

Participants

One British and two Japanese university student groups participated in the perception training. Originally one session each with a British group in the UK and with a Japanese group in Japan was planned. However, another opportunistic Japanese training group was added as some students became available during their short stay in the UK during the summer. The training groups were compared with the equivalent control groups in their perceptual accuracy before and after the training. The details of three training groups and their control groups are summarised in Table 1.

Table 1 *Details of Three Training Groups and Their Controls*

	N	age	Occupation	location of training
Group 1 British training group in the UK	5 males 7 females	18.5 years SD 0.67	undergraduates (studying a variety of different subjects)	University of York, UK
Control group	5 males 8 females	20.7 years SD 2.95		
Group 2 Japanese training group in the UK	13 females	19.7 years SD 1.08	undergraduates in one month summer English course (studying a variety of different subjects)	University of York, UK
Control group	15 females	19.7 years SD 0.95		
Group 3 Japanese training group in Japan	9 males 11 females	19.0 years SD 0.83	Psychology undergraduates	Konan University, Japan
Control group	9 females	18.4 years SD 0.53		

Materials

The British and Japanese Social Perception Task (BJSPT) was constructed based on the IPT. Initially, 30 British and 30 Japanese interaction scenes were filmed in five interpersonal contexts (competition, intimacy, kinship, status and age), the first four of which were based on the scene types of the IPT. Competition scenes contain interactions between a winner and a loser of games, while intimacy scenes involve interactions between a couple, friends or new acquaintances. Kinship scenes involve interactions between family members, status scenes interactions between a boss and a subordinate or between colleagues of equal status in occupational settings. Age scenes show interactions between people with or without age differences. Deception scenes in the IPT were replaced by age scenes, as the deception tasks filmed in the IPT were lacking in spontaneity. Instead, relative age was used as one of the interpersonal contexts which might affect interactants' behaviour toward each other. British and Japanese people were recruited and filmed in the respective countries but in similar naturalistic settings. As in the IPT, the relationships depicted are actual. People were not given a script to follow, but were filmed while interacting in their own ways in familiar environments.

Three video-clips (40 seconds long on the average) were edited out of each scene and compiled into three versions of the British task (containing only British clips) and three versions of the Japanese task (containing only Japanese clips). In order to make the speech content unintelligible but to retain nonverbal cues in the task, a low-pass filter was used to remove the frequencies above 410 Hz of the audio track. Three versions of the British task were shown to 70 British university students (about 23

students for each version) at the University of York, UK. Three versions of the Japanese task were shown to 86 Japanese university students (about 28 students for each version) at Konan University and Osaka Kyoiku University, Japan.

Two criteria were set to select the video-clips for the BJSPT:

(1) accuracy rate (the proportion of participants getting the answer correct for each clip) should be significantly above-chance but below-perfect, so that the clips can reliably discriminate perceptual sensitivity; (2) participants' accuracy for the clips (correct/incorrect) should correlate significantly with their scene-type total score, so that the scenes become homogeneous within the scene-types. There were 15 British scenes and 16 Japanese scenes containing at least one video-clip which satisfied the above two criteria. These were then used to select British and Japanese clips with equivalent scene settings and accuracy rates for each scene type.

As a result, 8 British and 8 Japanese clips (2 British and 2 Japanese clips for each of the four scene types - competition, intimacy, kinship and status) were compiled into the BJSPT. Since only a few age scenes satisfied the selection criteria, the dimension of age was excluded from the task. The scene settings and accuracy rates of the BJSPT scenes are summarized in Table 2; more detailed description of the scenes are shown in the Appendix.

Table 2 *Scene Settings and Accuracy Rates of the BJSPT Scenes*

	British scene		Japanese scene	
Scene type	Setting	Accuracy rate (%)	Setting	Accuracy rate (%)
Competition	2 male players talking after a squash game	69.6	2 male players talking after a tennis game	55.2
	A male and a female players talking after a tennis game	58.3	2 female players talking after a tennis game	63.0
Intimacy	Opposite-sex friends talking at home	60.9	Opposite-sex friends talking at home	63.3
	A married couple and their female friend talking at home	60.9	A married couple and their female friend talking at home	55.6
Kinship	A brother and a sister talking at home	65.2	A brother and a sister talking at home	62.1
	A mother, her daughter and mother's female friend talking at home	59.7	A mother, her daughter and mother's female friend talking at home	60.4
Status[a]	A female student talking[b] (1. with a course-mate 2. with a	60.9	A man talking (with his subordinate) at work	50.0

	lecturer) at the university			
	A man talking (with his subordinate) at work	54.2	A man talking (with his boss) in a café	65.5
Total mean		60.53		59.16

Note. [a]People in parenthesis are not shown in the video clips. [b]Compound scenes in which a female is shown in two separate scenes, interacting with two different people in turn.

The above scenes were mixed together and edited in random order as the BJSPT. Each scene of the task has a question and three possible answers. For example, in the first scene two Japanese women and a man are sitting around the table and chatting over tea. The question is "Which woman is married to the man?" and three possible answers are: (a) the woman on the left; (b) the woman on the right; (c) neither woman. As one of the women is actually the man's wife, there is an objective criterion of judgement.

The advantages of using the BJSPT scenes in the assessment and training of nonverbal perception can be summarised as follows: (1) multiple spontaneous communication cues are shown, whereby the process of person perception can be analysed in specific social contexts; (2) there is an objective criterion for each scene; (3) British and Japanese scenes are equivalent both in the social settings and in the level of decoding difficulty, which facilitates cross-cultural comparisons in perceptual process and accuracy.

Procedure

Group 1 training session. All the British participants were first tested with the BJSPT in small groups of two, three or four. They were then randomly divided into training and control groups by the first author. Three weeks later, the training group received a training session immediately before taking the BJSPT again, while the control group took the BJSPT without any training. The training session consisted of: (1) viewing training video-clips; (2) discussing nonverbal cues contained in the video-clips; (3) discussing cultural similarities and differences observed in four communication contexts - competition, intimacy, kinship and status.

Training video-clips were selected from the video material not included in the final version of the BJSPT. One British and one Japanese clip were selected for each scene type, except for intimacy, where two clips (one couple and one friend clip) were selected for both British and Japanese. In total, 10 training video-clips were shown to the training group in the order of competition, intimacy, kinship and status. All the scenes viewed by the participants had had above-chance accuracy levels in the pre-testing procedure.

After viewing each video-clip, participants in the training group were asked to state the relationship of people in the clip and to give reasons for their choice. They were then given the correct answer. They were also provided with a list of nonverbal cues. These had been identified by participants for each scene type in previous BJSPT testings and further examined by the first author in a microanalysis of each scene.

For example, in the status scenes, common behavioural cues observed from British and Japanese bosses were clear gestures, relaxed trunk posture and direct gaze. Behavioural cues observed from subordinates were restless hand movements, smaller gestures, nodding, tense posture and looking down. Cross-cultural differences were also observed, particularly amongst the subordinates. While the Japanese used obvious subordination cues such as tense trunk posture, nodding and avoidance of direct gaze, the behavioural cues of British subordinates were more similar to their bosses. These cross-cultural similarities and differences were discussed in relation to British and Japanese social rules regarding differences in status. Participants then viewed the BJSPT for a second time. The training session took approximately 1 hour, including 20 minutes of BJSPT second viewing.

Group 2 training session. All participants from the two Japanese universities viewed the BJSPT during the first week of their stay in the UK. Oral instructions were given in Japanese and the answer sheets used were also written in Japanese (translated from the original English answer sheets, using a back-

translation method (Brislin, Lonner & Thorndike, 1983) with help from another Japanese researcher). One week later, the training group (one of the two university groups) received training according to the same procedure as described for the group 1 training. All the explanations and discussions were, however, carried out in Japanese. Immediately after the training session, the participants in this group took the BJSPT for the second time. The training session took approximately 1 hour, including 20 minutes of second BJSPT viewing. The control group (another university group) also had the second BJSPT session one week after their first session, but without any training.

Group 3 training session. The Japanese participants took their first session BJSPT at the end of their Psychology lecture, alongside other students who were attending the lecture at that time. Two weeks later, the participants attended the second session in two separate groups. Group division was based on the time available for the students and their willingness to join either groups, as the training group session required approximately double the time in comparison with the control group session. In the second session, the training group underwent the same training as the other two groups using the example video-clips, and then viewed the BJSPT at the end of the session. The training session took approximately 1 hour, including 20 minutes of second BJSPT viewing. The control group was shown the BJSPT again without any training.

Results

Group 1 results

Accuracy levels on the BJSPT for the British training and control groups are reported in Tables 3 and 4 respectively, together with matched-sample t-tests, used to examine differences between the two testings.

Table 3 *Comparisons of BJSPT Accuracy for the British Training Group on First and Second Testing*

	Mean accuracy rate (%)			
Scene types	first testing	second testing	*t* (11)	*p*
British scenes				
Competition	54.2	54.2	0.00	n/s
Intimacy	50.0	50.0	0.00	n/s
Kinship	58.3	87.5	-2.03	n/s
Status	45.8	45.8	0.00	n/s
British scene total	52.1	59.4	-1.21	n/s
Japanese scenes				
Competition	37.5	33.3	0.43	n/s
Intimacy	54.2	62.5	-0.69	n/s
Kinship	58.3	70.8	-1.00	n/s
Status	66.7	83.3	-1.00	n/s
Japanese scene total	54.2	62.5	-1.21	n/s
BJSPT total	53.1	60.9	-2.03	n/s

				(= .07)

Table 4 *Comparisons of BJSPT Accuracy for the British Control Group on First and Second Testing*

	Mean accuracy rate (%)			
Scene types	first testing	second testing	*t* (12)	*p*
British scenes				
Competition	65.4	61.5	0.43	n/s
Intimacy	53.8	57.7	-0.37	n/s
Kinship	53.8	65.4	-1.39	n/s
Status	76.9	84.6	-1.00	n/s
British scene total	62.5	67.3	-1.24	n/s
Japanese scenes				
Competition	50.0	26.9	2.52	< .05
Intimacy	38.5	53.8	-1.76	n/s
Kinship	57.7	50.0	1.00	n/s
Status	53.8	50.0	0.32	n/s
Japanese scene total	50.0	45.2	0.96	n/s
BJSPT total	56.3	56.3	0.00	n/s

Differences between the two groups were tested with independent sample t-tests. On the first BJSPT testing, overall mean accuracy for the training group was 53.1%, for the control group 56.3%. This difference was statistically non-significant. On the second testing, the accuracy of the training group improved to 60.9%. This improvement, however, just failed to reach significance ($t = -2.02$, $p = .07$). In contrast, the overall accuracy of the control group was exactly the same on the two testings.

When accuracy was examined in terms of the four scene types, the training group's accuracy improved on British kinship scenes and on Japanese competition, intimacy and kinship scenes; however, none of these changes reached statistical significance. But comparisons between British and Japanese scenes showed that accuracy on the second testing was significantly higher for Japanese than for British status scenes ($t = -2.69$, $p < .05$). None of the British-Japanese scene comparisons differed significantly on the first testing.

The control group's accuracy improved on Japanese intimacy scenes and on the British kinship, status and intimacy scenes. However, accuracy levels declined on other scene types, including a significant decline on the Japanese competition scenes ($t = 2.52$, $p < .05$). On the second testing, accuracy levels for status were significantly higher for British than for Japanese scenes ($t = 2.42$, $p < .05$); overall, accuracy was significantly higher for British than for Japanese scenes ($t = 2.47$, $p < .05$). But none of the British-Japanese scene comparisons differed significantly on the first testing.

When the accuracy of the two groups was compared across the two testings, the control group significantly outperformed the training group on British status scenes on the first testing ($t = -3.00$, $p <$

.01). Even after training this significant difference was maintained ($t = -3.35, p < .01$). However, on second testing, the training group significantly outperformed the control group on British kinship scenes ($t = 2.37, p < .05$), Japanese status scenes ($t = 2.45, p < .05$), and Japanese scenes as a whole ($t = 2.28, p < .05$).

Group 2 results

Comparisons of the first and second BJSPT testing results are shown for the Japanese training and control groups in the UK in Table 5 and 6 respectively, together with the results of matched-sample t-tests.

Table 5 *Comparisons of BJSPT Accuracy for the Japanese Training Group in the UK*

	Mean accuracy rate (%)			
Scene types	first testing	second testing	*t* (12)	*p*
British scenes				
Competition	50.0	65.4	-1.30	n/s
Intimacy	65.4	50.0	1.76	n/s
Kinship	26.9	46.2	-1.81	n/s
Status	46.2	65.4	-1.81	n/s
British scene total	47.1	56.7	-3.33	< .01
Japanese scenes				
Competition	61.5	50.0	1.00	n/s
Intimacy	46.2	38.5	0.52	n/s
Kinship	38.5	57.7	-2.13	= .05
Status	84.6	73.1	1.00	n/s
Japanese scene total	57.7	54.8	0.56	n/s
BJSPT total	52.4	55.8	-1.10	n/s

Table 6 *Comparisons of BJSPT Accuracy for the Japanese Control Group in the UK*

	Mean accuracy rate (%)			
Scene types	first testing	second testing	*t* (14)	*p*
British scenes				
Competition	43.3	50.0	-0.56	n/s

Intimacy	66.7	56.7	1.38	n/s
Kinship	36.7	36.7	0.00	n/s
Status	56.7	53.3	0.37	n/s
British scene total	50.8	49.2	0.29	n/s
Japanese scenes				
Competition	70.0	63.3	0.62	n/s
Intimacy	56.7	63.3	-1.00	n/s
Kinship	63.3	60.0	0.56	n/s
Status	76.7	76.7	0.00	n/s
Japanese scene total	66.7	65.8	0.20	n/s
BJSPT total	58.8	57.5	0.30	n/s

In the first BJSPT testing, the overall mean accuracy for the training group was 52.4% while that for the control group was 58.8%. This difference was nonsignificant. Both groups' accuracy was significantly higher on Japanese scenes than on British scenes (training group $t = -2.51, p < .05$, control group $t = -2.80, p < .05$).

In the second testing, the training group's accuracy level improved significantly on British scenes overall ($t = -3.33, p < .01$). Their accuracy on Japanese kinship scenes also improved significantly ($t = -2.13, p = .05$). Their accuracy on the second testing became higher overall for British scenes than for Japanese scenes, although this difference was nonsignificant. The control group's accuracy, on the other hand, remained at a similar level both in British and Japanese scenes. The slight improvements and declines observed were all nonsignificant. Their performance on Japanese scenes remained significantly better than that on British scenes ($t = -3.35, p < .01$) in the second testing.

With regard to between-group comparisons, although there were no significant differences in the first testing, the control group on the second testing was significantly better than the training group on Japanese intimacy scenes ($t = -2.20, p < .05$). None of the other between-group differences reached statistical significance.

Group 3 results

Accuracy levels for the first and second BJSPT testing for the Japanese training and control groups in Japan are reported in Tables 7 and 8, together with the results of matched-sample t-tests.

Table 7 *Comparisons of BJSPT Accuracy for the Japanese Training Group in Japan*

	Mean accuracy rate (%)			
Scene types	first testing	second testing	*t* (19)	*p*
British scenes				
Competition	52.5	55.0	-0.24	n/s

Intimacy	55.0	47.5	1.00	n/s
Kinship	35.0	65.0	-3.04	< .01
Status	55.0	57.5	-0.24	n/s
British scene total	49.4	56.3	-1.64	n/s
Japanese scenes				
Competition	60.0	57.5	0.33	n/s
Intimacy	60.0	37.5	2.65	< .05
Kinship	42.5	65.0	-2.65	< .05
Status	60.0	72.5	-1.56	n/s
Japanese scene total	55.6	58.1	-0.54	n/s
BJSPT total	52.5	57.2	-1.78	n/s

Table 8 *Comparisons of BJSPT Accuracy for the Japanese Control Group in Japan*

	Mean accuracy rate (%)			
Scene types	first testing	second testing	*t* (8)	*p*
British scenes				
Competition	44.5	50.0	-0.32	n/s
Intimacy	50.0	44.5	1.00	n/s
Kinship	28.0	55.5	-2.29	= .05
Status	66.5	61.0	0.32	n/s
British scene total	47.3	52.8	-0.80	n/s
Japanese scenes				
Competition	66.5	66.5	0.00	n/s
Intimacy	50.0	55.5	-0.43	n/s
Kinship	44.5	61.0	-1.41	n/s
Status	55.5	66.5	-0.69	n/s
Japanese scene total	54.1	62.5	-1.33	n/s
BJSPT total	50.7	57.6	-1.70	n/s

On the first testing, the overall BJSPT accuracy for the training group was 52.5% and that for the control group was 50.7%. This difference was nonsignificant. Both groups' accuracy was higher in judging Japanese scenes than British scenes, but this was also not significant.

On the second testing, there were significant improvements in accuracy for both groups. The control group's accuracy improved significantly in British kinship scenes ($t = -2.29$, $p = .05$). The training group's accuracy for both British and Japanese kinship scenes improved significantly ($t = -3.04$, $p < .01$ and $t = -2.65$, $p < .05$ respectively). However, their accuracy for Japanese intimacy scenes declined significantly ($t = 2.65$, $p < .05$). As a result, their accuracy levels for British and Japanese scenes became similar (56.3% and 58.1% respectively).

With regard to between-group comparisons, overall BJSPT accuracy for the training and control groups in the second testing became very similar (57.2% and 57.6% respectively). Accuracy differences between the two groups for the four British and Japanese scene types were all nonsignificant.

Summary

The results for the above three groups can be summarised as follows:

1. The training groups improved their accuracy more than the control groups; however in terms of overall BJSPT scores, their improvements from the first to the second testing were non-significant.
2. The training groups improved their accuracy for cross-cultural scenes more than within-cultural scenes. One training group (Japanese in the UK) showed a significant improvement in accuracy on British scenes overall.
3. When comparing cross-cultural and within-cultural scene accuracy, differences for the training groups on the second testing were minimal. But for the control groups, differences were unchanged or became greater (due to improvements in within-cultural scene accuracy).
4. Scene-type performance. The participants improved their accuracy most on kinship scenes. Thus, both Japanese training groups showed significant improvements on Japanese kinship scenes; one Japanese training and control groups in British kinship scenes.

Discussion

The results for the three sessions showed that training was effective principally in improving cross-cultural perceptual accuracy. British trainees made more improvements in accuracy for Japanese than for British scenes, while Japanese trainees made more improvements on British scenes. As a consequence, cross-cultural accuracy for the training groups on the second testing became comparable to within-cultural accuracy or even better. In contrast, within-cultural scene accuracy for the control groups on the second testing remained higher than cross-cultural scene accuracy. Thus, training would appear to have been successful in teaching trainees cultural aspects of nonverbal communication.

Improvements in within-cultural scene accuracy were rather limited, although they did occur for some scene types, such as British and Japanese kinship scenes. This may have been partly because trainees' baseline within-cultural scene accuracy was high in comparison to their cross-cultural scene accuracy. Furthermore, trainees might not have acquired much new knowledge regarding the communication characteristics of their own culture. Indeed, some trainees seem to have actually become confused by the new cross-cultural knowledge and performed worse on certain within-cultural scenes on the second testing. In order to improve people's general nonverbal sensitivity, the training might have benefited from more example scenes for the trainees to practise observation of cues.

As the scenes in the BJSPT are set in particular social contexts, good performance involves more than just accurate recognition of nonverbal cues. Observers also have to take into consideration contextual appropriateness. Overall, training in this regard seems to have assisted improvements in cross-cultural scene accuracy. But it also seems to have been more effective in relation to the improvement of certain scene types than others. Thus, accuracy on kinship and, to a lesser extent, status scenes tended to improve more than on competition and intimacy scenes. Learning about cross-cultural similarities and differences regarding kinship and occupational status seems to have helped trainees. In contrast, identifying private emotions in social contexts seems to have been more difficult. For example, emotions experienced by winners and losers in competition scenes were often masked by display rules, and consequently trainees

had difficulty in improving their interpretation of these scenes. It would seem more time and practice may be needed to learn how to read these cues appropriately.

The control groups maintained similar overall BJSPT accuracy over the two testings. Arguably, any improvements observed for individual scene types can be attributed to participants' repeated exposure to the same scenes. These improvements were usually less than those observed for the training groups. This would suggest that systematic training improves perceptual accuracy more than just the repeated exposure to nonverbal cues.

One limitation of the study was the shortness of time available for training, given that all the participants were university students who volunteered to undergo testing between lectures. In the terminology of intercultural communication training, a "culture-specific" approach was used: examples of British and Japanese scenes were shown in four communication contexts and useful nonverbal cues discussed. If time had allowed, a "culture general" approach could also have been included: cultural theories could have been taught, together with discussion of how cultural dimensions are related to communication characteristics, especially British and Japanese. In this way, trainees could have acquired a wider knowledge of cultural differences and cultural theories which they could have applied in their day-to-day intercultural interactions.

Another limitation of the study was that the participants were not balanced in terms of nationality and sex. Thus, only one British group underwent perception training in the UK, while two Japanese training groups (one in the UK and another in Japan) participated in the training. In addition, while the British training group contained similar number of males and females, the Japanese training groups comprised mainly females (the UK Japanese group had only females). These limitations need to be taken into account when interpreting the results of this study.

From the data presented here, it is not possible to estimate how training contributed to the participants' general within-cultural and intercultural communication skills, or whether its effectiveness extends beyond the training sessions. These aspects would need to be examined in more comprehensive training programmes. To make this training procedure more effective, the following aspects would need to be improved. Firstly, more example video-clips are required, so that trainees can practise observation of nonverbal cues more thoroughly, with reference to the cultural and nonverbal knowledge they have acquired. Secondly, more than one training session should be provided, so that the effects can become more long-lasting by helping trainees to consolidate their knowledge and have more practice in observing nonverbal cues. Thirdly, training should be carried out in small groups of not more than 10 people, as large group size seems to have affected people's concentration levels. Being in smaller groups also tends to encourage trainees to participate more actively. Apart from British and Japanese differences in learning attitudes, the higher participation of British trainees seem to have been facilitated by working in smaller groups; in contrast, Japanese trainees participated in groups of more than 10 people and showed rather passive attitudes. Lastly, perception training should be conducted as part of more comprehensive within-cultural or intercultural communication skills training programmes. Acquiring other communication skills might help trainees to improve their perceptual ability. The effectiveness of the procedure might also be enhanced, if it was targeted at people particularly in need of communication training.

In conclusion, the results of this study suggest that appropriate training can improve people's cross-cultural perceptual accuracy. The training procedure focussed on improving cultural awareness of nonverbal behaviour, and improvements in cross-cultural perception were more substantial than in within-cultural perception. It may well be the case that this kind of training in nonverbal sensitivity takes more time and practice than other forms of inter-cultural instruction. Nevertheless, it does seem that after such training, observers can acquire the ability to perceive people from other cultures as accurately as people from their own cultural background.

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Appendix

Description of the BJSPT scenes

Scene 1 (Japanese intimacy scene)

A Japanese married couple are having tea with one of their close female friends after dinner. They have all been invited to another friend's house. They are sitting around the table (the husband is sitting between the two women) and talking about a social dance class they have been attending. The couple have been married for four years and have known their friend for the last three years. They are all in their early 30s.

Scene 2 (British competition scene)

Two British Psychology course-mates are discussing the result of a squash game they have just played. They are standing side-by-side outside the university sports centre where they have played the game. They play squash games together regularly and are talking about each others' techniques and their improvements. They are both in their early 20s.

Scene 3 (British intimacy scene)

A British married couple are having tea with one of their close female friend after dinner. They are at the couple's house. They are sitting around the table (the husband is sitting between the two women) and talking about the university course the wife is considering applying for. The couple have been married for two years and have known their friend for the last two years. The women are in their mid or late 20s and the man is in his early 30s.

Scene 4 (British kinship scene)

A British mother and her daughter (about 10 years old) are talking with the mother's younger sister (daughter's aunt) at home. The mother and her sister are sitting on separate sofas and the daughter is sitting between them on a chair. They are talking about the daughter's school activities and her performance. The daughter often sees her aunt and is used to being with her.

Scene 5 (Japanese intimacy scene)

A Japanese male and his female friend are sitting side-by-side on a sofa and talking about a particular place they know well in Japan. They are in the woman's flat. They have known each other for the last two years but they are not very close friends. The woman is in her mid 20s and the man is in his mid 30s.

Scene 6 (British kinship scene)

A British man and his sister are sitting side-by-side on chairs. They are talking about home decoration. They are at their parents' home and having tea. They both live close by and meet very frequently. The woman is in her early 40s and the man is in his early 30s.

Scene 7 (Japanese status scene)

A Japanese man is sitting on a chair and talking with his female subordinate in the office. He is explaining to her the new security system the company is introducing. He has been working with his subordinate for more than 8 years. The man is in his late 40s and his subordinate is in her late 20s.

Scene 8 (British intimacy scene)

A British male and his female friend (house-mate) are sitting on chairs face-to-face. They have been sharing the house for the last one year. They are talking about football matches they have been to. Both the man and the woman are in their early 20s.

Scene 9 (Japanese status scene)

A Japanese man is talking with his male boss in a café after work. They are sitting at a table and talking about overseas assignments from their company. The man has been working with his boss for more than 5 years. The man is in his late 20s and his boss is in his mid 30s.

Scene 10 (British status scene)

A British man is sitting on a chair and talking with his female secretary in his office. They are talking about the news they have been listening to on that day. The man has been working with his secretary for more than 10 years. The man is in his late 40s and his secretary is in her 50s.

Scene 11 (British status scene) - compound scene

In the first scene a British female student is talking with another female student about her life at the university. They are sitting at a table in the seminar room at the Psychology department. The two people are meeting for the first time. In the second scene the same female student is talking with a lecturer at the university. She is sitting at a table and explaining the lecturer her plans for the future. They are in the seminar room at the Psychology department.

Scene 12 (Japanese competition scene)

Two high school male teachers are discussing the result of a tennis game they have just played on the tennis court at their high school. They are standing side-by-side and making critical comments about their techniques. They do not play tennis together regularly. They have similar teaching experiences at school and are of similar status. They are both in their early 30s.

Scene 13 (Japanese kinship scene)

A Japanese male and his sister are sitting side-by-side on chairs and talking about the brother's school trip. They are at their parents' house. The brother lives with their parents but the sister is living away at college and occasionally comes home. The brother is in his late teens and the sister is in her early 20s.

Scene 14 (Japanese competition scenes)

Two Japanese female friends are standing side-by-side and talking about the result of a tennis game they have just played on the public tennis court. They have played tennis together quite often in the past and know each others' games well. They are both in their early 30s.

Scene 15 (British competition scenes)

A British male and his female friend are standing side-by-side and talking about the result of a tennis game they have just played on the university tennis court. They are both students at the university and

play tennis together occasionally. They are both in their mid 20s.

Scene 16 (Japanese kinship scenes)

A Japanese woman and her daughter (about 8 years old) are chatting with a female friend of the mother. They are talking about the daughter's school activities. The daughter is sitting between the mother and the friend on a sofa. The two women are close friends and see each other often. The daughter is familiar with the friend.

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