Identifying Targets of Communication Styles: An Exploratory Study

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The present study investigated the identification of communication styles. Native and foreign adult judges viewed 60 audiovisual clips of women who were instructing one of four listeners: a child, a foreign adult speaker, a mentally retarded adult, or a native adult speaker of normal intelligence. The judges were asked to identify the listener in each clip. Overall, native judges were more accurate than foreign judges at identifying the listeners. In addition, more listeners were accurately identified by the native and foreign judges when the listener was a child or a normal native adult speaker. Systematic errors suggest that accuracy in judgments may be influenced by similar and overlapping linguistic and paralinguistic features contained in the special communication styles and previous expectations about the listener groups.

A number of studies have demonstrated the social and contextual determinants of communication by noting that speakers modify their communication styles in accordance with their assumptions about the listener (Ervin-Tripp, 1969, 1972; Hymes, 1972; Snow & Ferguson, 1977). Communication styles, also commonly referred to as speech styles or speech registers, denote variations in language, dialect, forms of address, lexicon, grammatical construction, phonology, and syntax. Research suggests that communication styles consist of a set of co-occurring verbal and nonverbal features and, furthermore, that a repertoire of communication styles is available for use by individuals in social interactions (Caporael, Lukaszewski, & Culbertson, 1983; Coleman, 1980; Coupland, Coupland, Giles, & Henwood, 1988; Culbertson & Caporael, 1983; DePaulo & Coleman, 1981, 1986; Snow & Ferguson, 1977). What we sought to understand with the present study was whether those exposed to different communication styles can distin-guish among them and identify the targets to whom the communications are addressed.

Few studies have specifically explored whether variations in communication styles are discernible and can be discriminated. The present investigation, which studied communication to four categories of listeners—children, native adult speakers of normal intelligence (who were college students), foreigners (who were foreign students), and mentally retarded adults—provides an opportunity to study the communication addressed to people who differ from native adult speakers on a number of dimensions: age, appearance, and social status. We were also interested in the accuracy of judges. Hence, we presented speech samples to native adult speakers of English to determine their accuracy in distinguishing among the listener groups to whom the speech had been addressed. We also presented them to foreign adults, reasoning that the identification of subtle nuances conveyed in communication styles may be linked to sociolin-

guistic skill, or communicative competence (Hymes, 1972; Wiemann, 1977), a skill that develops only after some mastery of a new language.

Previous research on communication styles has focused primarily on the psycholinguistic aspects of talk to babies or young children (BT) and talk to foreigners (FT), although some research has examined communication to the elderly (Caporael, 1981; Caporael et al., 1983; Culbertson & Caporael, 1983). One of the most noticeable shifts in communication occurs when people talk to babies and young children. BT is characterized by simplified lexical and grammatical forms and different paralinguistic patterns (Brown, 1977; Ferguson, 1964, 1977). It involves a high pitch, a slow rate, and exaggerated intonation, although the style or degree may vary depending on the child's age or how babyish the child sounds (DePaulo & Coleman, 1987).

Like BT, FT contains some features of simplification and redundancy (Campbell, Gaskill, & Vander Brooks, 1977; Ferguson, 1975; Hatch, Shapira, & Gough, 1975). Foreigner talk includes the use of a simpler vocabulary, shorter sentences, more questions, and more repetitions (Campbell et al., 1977; DePaulo & Coleman, 1986; Freed, 1981). Moreover, FT often contains more nouns, fewer pronouns, greater preverb length, more OKs, and less use of the listener's name (DePaulo & Coleman, 1986). In addition, the communication style used with foreign students may depend on how "foreign" they seem—that is, how accented their speech is or the kind of accent they have (e.g., European, Asian, African) (DePaulo & Coleman, 1987; Freed, 1981; Snow, van Eeden, & Muysen, 1981; Valdman, 1981).

Fewer studies have examined the style of communication addressed to mentally retarded adults (RT) (DePaulo & Coleman, 1986; Spradlin & Rosenberg, 1964). In a detailed analysis of communication styles, DePaulo and Coleman (1986) found that communication to mentally retarded adults is characterized by more words, more sentences, more global repetitions, more paraphrased repetitions, more partial repetitions, more pronouns, fewer pauses, and shorter duration of pauses. People also spend more time teaching retarded adults (DePaulo & Coleman, 1986). Research on nonverbal communication has also revealed that people are often nervous or ambivalent in the presence of stigmatized people such as mentally retarded adults (Coleman & DePaulo, 1991; Katz, 1981; Kleck, 1968; Kleck, Ono, & Hastorf, 1966; Langer, Fiske, Taylor, & Chanowitz, 1976) and this can distort communication to them (Edelsky & Rosegrant, 1981).

All these communication styles, however, have features in common and are linguistically and paralinguistically distinctive from communication to native non-retarded adults (Coleman, 1980). Related studies have compared the recognizability and distinctiveness of BT (DePaulo & Coleman, 1981) and the speech addressed to the elderly (Caporael, 1981; Caporael et al., 1983; Coupland et al., 1988; Coupland, Nussbaum, & Coupland, 1991; Culbertson & Caporael, 1983). These studies illustrate that caregivers frequently communicate to elderly adults in a style that is neither BT nor a style that reflects the communication exchanged between other adults.

Taken together, these studies raise a number of questions about similarities and differences in communication styles and whether they can be identified. The fact that researchers have identified the specific linguistic and paralinguistic features that distinguish one communication style from another indicates that such styles are, in principle, discriminable, but it does not indicate whether lay observers can make such discriminations. Observers may not notice the relevant cues, or they may notice them but fail to realize that they are relevant to identifying a communication style. Moreover, we know very little about the characteristics (e.g., familiarity, expectations) that determine the identification of communication styles. The purpose of the present study is to begin an exploratory investigation of these characteristics.

METHOD

Overview. As noted above, we know from previous research that native adult speakers adopt different communication styles in addressing other native adults (NS), very young children (BT), mentally retarded adults (RT), and foreign adult speakers of English as a second language (FT). In this study, native adult speakers supplied samples of each type of communication produced under standardized conditions. We presented these speech samples to native adult speakers of English. On the assumption that success in identifying the different communication styles depends in part on language proficiency, we also submitted the speech samples to judges with lesser English fluency—namely, adult foreigners.

Eighty women were videotaped individually while instructing either a child, a mentally retarded adult, a foreign student, or a native college student on how to complete a block design task. Twenty-second clips of 15 speakers from each of the four conditions were randomly selected and spliced onto one videotape. This videotape of 60 speakers was played for 80 native and foreign adults. All judges were asked to identify who the listener was.

Stimulus tape. Fifteen speakers were randomly selected from each of the four conditions. A 20-s clip was chosen from each speaker's block design instructions after she

had been speaking for 1 min. These clips were arranged on the videotape in five groups of 12 clips each. Within each group, each condition (native adult, child, foreign adult, retarded adult) occurred three times. Within these constraints, clips were randomly assigned to groups, and speakers were randomly assigned within groups. A 30-s rating pause was spliced in after each 20-s segment. The total length of the videotape was 50 min.

Foreign adult questionnaire. A questionnaire was composed of a series of items that asked the foreign adult speakers about their country of origin, length of time in the United States, and length of time speaking English (continuum ranged from less than 6 months to more than 3 years). Foreign adult judges were also asked to rate their knowledge of English, their understanding of spoken English, and their speaking of English and to list some of their greatest problems with English. (These ratings were on a 4-point continuum ranging from excellent to poor.)

Speakers. The speakers were 80 undergraduate women recruited from sign-up sheets and paid for their participation in a half-hour session.

Listener/confederates. We employed a variety of confederates because we did not want the idiosyncratic features of an individual listener to influence the results. There were four different female child listeners and two different female adult (college student) listeners. These participants were recruited from sign-up sheets. The foreigners were three young female adults who had very noticeable foreign accents (French, Latvian, and Chinese). These foreigners were college students or recent college graduates. The retarded listeners were four young female adults between 20 and 30 years of age who were recruited through personal contacts. Information regarding the actual level of retardation was not available to the experimenters. All the retarded confederates were noticeably retarded (e.g., personal appearance, inappropriate effect) but could maintain a conversation. All listeners were paid for their participation.

Initial recording procedure. Speakers were told that the experiment concerned the effects of "feedback" and "no feedback" on task performance. In the feedback condition, the speakers were to act as "teachers" in a face-to-face interaction with a "student" (listener). In the no-feedback condition, the student was seated behind a one-way mirror where she could watch and hear the teacher but would not be able to initiate communication or respond to the teacher's instruction. In fact, all speakers were in the no-feedback condition. Speakers were further told that the effects of feedback versus no feedback were expected to vary for different types of "stu-

dents." This was the rationale for introducing the listener, a confederate who was either (a) a native adult speaker, (b) a foreign adult speaker with a strong accent, (c) a 5- to 7-year-old child, or (d) a mentally retarded adult. Ostensibly to help both participants perform better, the experimenter allowed the listener and speaker to spend 5 min getting acquainted in any way they wished. Although the speakers believed that the listener would perform the task, the confederates were actually involved only in the getting-acquainted segment of the experiment.

After the getting-acquainted session ended, the confederate left the room. The experimenter informed the speaker that the listener would watch and listen to her from behind a one-way mirror. We used this design because we wanted the speakers to feel as if there were a real person behind the mirror, while we retained some experimental control over the interchange. The speaker was told to explain to the listener how to put together a block design. The speaker was also told that the listener, though able to see and hear the speaker, would not be able to communicate with her. Finally, we tape-recorded and videotaped the speakers' instructions.

Judges. The native adult judges were 20 male and 20 female college students who participated as one means of fulfilling a requirement for an introductory psychology course. To serve as additional judges, 21 foreign male and 19 foreign female college students were recruited from the English Language Institute and the campus International Center. All judges attended the same midwestern university.

The foreign student judges were selected only if they possessed noticeable foreign accents, if their native language was not English (making them natural elicitors of FT), and if they had resided in the United States for less than 3 years. We obtained information about their country of origin and English language proficiency through a questionnaire.

Sixteen of the foreign students were from Asian countries, 14 from South America, 4 from the Middle East, 2 from African countries, and 2 from European countries. Two students did not report their country of origin. Knowledge of English varied considerably among the foreign students. Only 5 students rated their knowledge of English as excellent and 5 as very good. Twenty-two students rated their knowledge as good, and 6 said their knowledge was poor. English-speaking ability also varied among the foreign student judges. Two students rated their English speaking ability as excellent, 5 reported it as very good, 21 rated it as good, and 10 rated it as poor. Two foreign students did not provide information about their English language proficiency.

Procedure. The experimenter met the judges and led them to a room with a table, video recorder, and monitor. When all the judges had arrived and were seated, rating forms were passed out. Seated around a table, judges viewed the videotape on the monitor in small groups (four to five). To control for order effects, some subjects viewed the first 30 speakers first and other subjects viewed the second 30 speakers first. Each judge viewed a 20-s segment and immediately afterward rated the speaker during a 30-s rating pause. This procedure had been used previously (Coleman, 1980), and it was determined that 20-s audiovisual segments and 30-s rating pauses were more than enough time for judges to make their ratings.

Judges were asked to indicate, for each audiovisual segment, which of the four target persons the speaker was most likely addressing. In addition, they were asked to rank the three other target persons in order of the likelihood of having been addressed. After the rankings, they were asked to give their level of confidence (1 = *not very confident* to 5 = *very confident*). In the case of a few foreign adults who were quite unfamiliar with the experimental procedures, the concept of ranking was repeated and elaborated. Judges then viewed the videotape. Next, judges were debriefed and thanked for their participation.

RESULTS

Accuracy

Although all judges were asked to rank their selections, statistical analysis was performed only on the first choices. First choices were matched with the correct answers to compute an accuracy score. Accuracy was assessed in two ways: first with chance-level statistics to examine separately the accuracy levels of native adults and, second, with a factorial multivariate analysis of variance to assess the differential accuracy of the two groups of native and foreign judges.[1]

Overall, native adults performed above chance level on this task (z = 7.90, p < .001), whereas the overall accuracy of foreign adults was not significantly different from chance.

Both native adult and foreign adult judges accurately identified NS (native, z = 12.96, p < .001; foreign, z = 6.74, p < .001). Native judges accurately identified BT (z = 3.91, p < .001), but foreign judges (z = 1.08, n.s.) did not. Neither foreign judges (z = 1.65, p < .09) nor native judges (z = 1.08, n.s.) identified FT. Finally, all judges had difficulty identifying the communication to mentally retarded adults (native, z = 0, n.s.; foreign, z = 1.64, p < .09), although the foreign judges identified this style at a marginally significant level (see Table 1).

TABLE 1: Proportion of Adjusted Correct Answers and Other Choices—Native and Foreign Judges

Judges and Correct Answer	Correct Answer	Other Choices		
		Child	Foreign Adult	Retarded Adult	Native Adult
Native judges					
Overall task	.32*				
Child	.32ₐ	—	.21_b	.34_a	.13_c
Foreign adult speaker	.23_a	.33_b	—	.28_c	.16_d
Retarded adult	.25_a	.18_b	.32_c	—	.24_a
Native adult speaker	.48_a	.16_b	.24_c	.13_b	—
Foreign judges					
Overall task	.26				
Child	.27_a	—	.20	.29_a	.24_ab
Foreign adult speaker	.22	.28	—	.27	.23
Retarded adult	.22_a	.26_ab	.31_b	—	.21_a
Native adult speaker	.32_a	.20_b	.26_c	.22_bc	—

NOTE: Within a row, proportions having the same subscript are not significantly different. The absence of subscripts indicates that the overall F was not significant.
*p < .001.

A 4 (Communication Style) × 2 (Sex) × 2 (Judge Type) factorial design analyzed with a repeated-measures ANOVA confirmed and expanded the results presented above. This analysis on the adjusted scores yielded a main effect for judge type, $F(1, 76)$ = 24.81, p < .001, a main effect for communication style, $F(3, 228)$ = 73.23, p < .001, and a communication style by judge type interaction, $F(3, 228)$ = 11.58, p < .001. There were no significant main effects or interactions for sex of judge. These findings verified that native judges were more accurate than foreign judges and that native judges were most accurate at identifying NS and BT.

English Language Proficiency and Accuracy

We also conducted a set of specific analyses with the foreign judges on their systematic errors and on the relationship between accuracy and English language proficiency. Overall, foreign judges chose the child category more frequently and the retarded category less frequently than any other categories. It was unclear whether some of the foreign adults understood the meaning of *mentally retarded adult.* Foreign judges who had spoken English longer than 3 years were most accurate at identifying the communication styles, $F(10, 16)$ = 3.06, p < .02. We also found correlations between the amount of time speaking English and accuracy at identifying BT (r = .34, p < .03) and NS (r = .37, p < .02). Self-rated knowledge of English was negatively related to overall accuracy (r = –.28, p < .07) and to identifying BT (r = –.51, p < .001). In addition, self-ratings of English-speaking ability were negatively correlated with overall accuracy (r = –.33, p < .03). Other attributes (such as

country of origin, things that help my understanding of English) were not related to accuracy in identifying communication styles.

Errors in Identifying Communication Styles

A comparative analysis of the first choices and the correct answers revealed a set of errors. We employed a Newman-Keuls contrast to examine the errors. Among the native judges, most of the errors were systematic rather than random. When the correct answer was *child*, for example, an equally large proportion of judges selected *mentally retarded adult* as their first choice. Apparently, many of these judges expected speakers to address retarded adults like children. Similarly, very few native judges thought the communication to foreigners, FT (low English language competence), was NS, but many thought it was meant for mentally retarded adults. Examination of other first choices of the native and foreign judges indicated that, when judging RT, many thought the target of communication was a foreign student (although most of the responses were equally distributed across all the listener categories). In contrast, both native and foreign adult judges rarely thought NS was intended for a child, foreigner, or mentally retarded adult. These similarities and differences in first choices (errors) are statistically significant and suggestive of the part that judges' expectations of appropriate levels of communication to different social targets may play in the identification process.

DISCUSSION

The systematic errors of the native judges suggest that their accuracy may have been influenced either by overlapping and similar linguistic and paralinguistic features contained in BT, RT, and FT or by previous expectations about the listener groups. The errors of the foreign judges may reflect their sociolinguistic skills or lack of previous experience with communicating to different types of listeners in a foreign language.

One might ask why our native judges were accurate at identifying NS and BT but had difficulty differentiating FT and RT and why foreign judges had difficulty differentiating BT, FT, and RT. Is there something about these speech registers that makes them easy or difficult to decipher? One way to address this issue would be to conduct a content analysis of these four communication styles (see DePaulo & Coleman, 1986, for a detailed analysis and discussion). In such a study, the entire protocol of the block design task (from which the 20-s clips for the present investigation were taken) was analyzed for a number of linguistic and paralinguistic features. These features were organized into five categories:

clarifying (i.e., time spent teaching, number of words, total number of sentences, global repetitions, paraphrase repetitions, partial repetitions), *simplifying* (i.e., number of nouns, number of pronouns, number of verbs, preverb length, and common vocabulary), *timing* (i.e., rate of speech, number of pauses, and pause duration), *attention maintaining* (i.e., use of the listener's name, number of questions, sentence length, and no-verb sentences), and *other measures* (i.e., type-token ratio, nonsequential repetitions, and total repetitions). Most of the clarifying, simplifying, timing, and attention-maintaining features were more likely to occur in BT, RT, and FT than in NS (exceptions were time spent teaching, global repetitions, number of nouns, rate of speech, type-token ratio, and nonsequential repetitions). Hence, the speech addressed to the "special" targets contained similar and overlapping features (e.g., partial repetitions, common vocabulary). Adding to the difficulty was that RT and BT shared other features (e.g., number of pronouns, number of sentences). In fact, RT was more similar to BT in these respects than it was different. Likewise, FT and RT shared some features (e.g., sentence length, preverb length). What is striking, though, is that, despite the similarities, BT was distinctive especially as an attention-maintaining device. These attention-maintaining features may have provided the salient cues to our native judges for accurate identification of this communication style (DePaulo & Coleman, 1986).

Although this experiment did not directly assess social schemata or stereotypes (expectations about social categories or communication styles), such expectations may be linked to the identification of communication styles, at least among native adult speakers. Studies of communications to stigmatized individuals (e.g., the "ex-con script," the "child among adults script") (Coleman & DePaulo, 1991; Jones et al., 1984) or to elderly adults suggest that speakers accommodate their speech to listeners (Coupland et al., 1988, 1991). Often they use a communication style based on a set of preconceptions or stereotypes characterizing the elderly as dependent or childlike (Caporael et al., 1983). It is clear from the present investigation, where 33% of the judges thought BT was intended for mentally retarded adults, and from an earlier survey (DePaulo & Coleman, 1986) that there are many similarities in the way people *think* they talk to children and mentally retarded adults.

Our findings, similar to those of some previous studies (Hymes, 1972; Wiemann, 1977), also suggest that the identification of communication styles may represent communicative competence or a sociolinguistic skill. Only foreign adults who had actually spoken the language for more than 3 years made a significant number of correct identifications of BT, FT, and RT. Therefore,

the communicative competence needed to decipher special communication styles may develop only after the mastery of a nonnative language.

Both native and foreign adults were able to identify NS, a speech style representing the common parlance. Given that one "normal" type of communication style was contrasted with three special types, it is not surprising that speech addressed to "normal" adults is easier to detect. Had our stimulus material contained multiple categories of "normal" types of communication (e.g., communication addressed to college students, professors, sales clerks), we might have found more confusion in identifying the corresponding communication styles.

The ability to identify communication styles is important because it is linked to social skills (Rosenthal & DePaulo, 1979; Soucie, 1979) and interaction management (Wiemann, 1977). Hall (1979) notes that one major component of social skill is the "ability to understand social contexts and social roles" and select appropriate communicative acts. Such skill would also involve the selection of "words suited to the other's level of vocabulary" (p. 34). Thus, the beliefs or expectations that one forms about a class of individuals serve to mediate what should be said and how something should be said. Likewise, the chosen communication might be expected to reflect the workings of the schema, allowing others to determine a speaker's view of a communication target.

NOTE

1. To correct for the potential influence of selection bias on the accuracy scores (e.g., choosing one category more frequently than another), another set of statistical analyses was conducted to adjust for any response bias. First, we calculated a set of raw counts minus the expected counts (expected counts = [row margin × column margin]/total count) for each subject. The values of these variables reflect how well each subject scored beyond what would be expected from simple guessing, correcting for that subject's possible bias in choosing categories. All analyses were then recomputed with the selection bias taken into account and the adjusted results reported here. For both native and foreign adults, there is little difference in the actual and adjusted scores.

REFERENCES

Brown, R. (1977). Introduction. In C. E. Snow & C. A. Ferguson (Eds.), *Talking to children* (pp. 1-30). Cambridge: Cambridge University Press.

Campbell, C., Gaskill, W., & Vander Brook, S. (1977). Some aspects of foreigner talk. In C. A. Henning (Ed.), *Proceedings of the Los Angeles Second Language Forum* (pp. 94-106). Los Angeles: University of California, Los Angeles.

Caporael, L. R. (1981). The paralanguage of caregiving: Baby talk to the institutionalized aged. *Journal of Personality and Social Psychology, 40,* 876-884.

Caporael, L. R., Lukaszewski, M., & Culbertson, G. H. (1983). Secondary baby talk: Judgments by institutionalized elderly and their caregivers. *Journal of Personality and Social Psychology, 44,* 746-754.

Coleman, L. M. (1980). *Changes in speech due to the characteristics of the listener.* Unpublished doctoral dissertation, Harvard University.

Coleman, L. M., & DePaulo, B. M. (1991). Uncovering the human spirit: Moving beyond disability and "missed" communications. In N. Coupland, H. Giles, & J. Wiemann (Eds.), *'Miscommunication' and problematic talk* (pp. 61-84). Newbury Park, CA: Sage.

Coupland, J., Nussbaum, J., & Coupland, N. (1991). The reproduction of aging and agism in intergenerational talk. In N. Coupland, H. Giles, & J. Wiemann (Eds.), *'Miscommunication' and problematic talk* (pp. 61-84). Newbury Park, CA: Sage.

Coupland, N., Coupland, J., Giles, H., & Henwood, K. (1988). Accommodating the elderly: Invoking and extending theory. *Language and Society, 17,* 1-41.

Culbertson, G. H., & Caporael, L. R. (1983). Baby talk speech to the elderly: Complexity and content of messages. *Personality and Social Psychology Bulletin, 9,* 305-312.

DePaulo, B. M., & Coleman, L. M. (1981). Evidence for the specialness of the baby talk register. *Language and Speech, 24,* 223-231.

DePaulo, B. M., & Coleman, L. M. (1986). Talking to children, foreigners, and retarded adults. *Journal of Personality and Social Psychology, 51,* 945-959.

DePaulo, B. M., & Coleman, L. M. (1987). Verbal and nonverbal communication of warmth to children, foreigners, and retarded adults. *Journal of Nonverbal Behavior, 11,* 75-88.

Edelsky, C., & Rosegrant, T. (1981). *Interactions with handicapped children: Who's handicapped?* (Sociolinguistic Working Paper No. 91). Austin, TX: Southwest Educational Development Laboratory.

Ervin-Tripp, S. (1969). Sociolinguistics. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 4, pp. 91-165). New York: Academic Press.

Ervin-Tripp, S. (1972). On sociolinguistic rules: Alterations and co-occurrence. In J. J. Gumperz & D. Hymes (Eds.), *Directions in sociolinguistics* (pp. 270-300). New York: Holt, Rinehart & Winston.

Ferguson, C. A. (1964). Baby talk in six languages. *American Anthropologist, 66,* 103-114.

Ferguson, C. A. (1975). Toward a characterization of English foreigner talk. *Anthropological Linguistics, 17,* 1-14.

Ferguson, C. A. (1977). Baby talk as a simplified register. In C. E. Snow & C. A. Ferguson (Eds.), *Talking to children* (pp. 219-236). Cambridge: Cambridge University Press.

Freed, B. (1981). Foreigner talk, baby talk, nature-talk. *International Journal of the Sociology of Language, 28,* 19-39.

Hall, J. (1979). Gender, gender roles, and nonverbal communication skills. In R. Rosenthal (Ed.), *Skill in nonverbal communication* (pp. 32-67). Cambridge, MA: Oelgeschlager, Gunn & Hain.

Hatch, E., Shapira, R., & Gough, J. (1975). *Foreigner talk discourse* (Working papers in English as a Second Language). Los Angeles: University of California at Los Angeles.

Hymes, D. (1972). Models of the interaction of language and social life. In J. J. Gumperz & D. Hymes (Eds.), *Directions in sociolinguistics* (pp. 35-72). New York: Holt, Rinehart and Winston.

Jones, E. E., Farina, A., Hastorf, A. H., Markus, H., Miller, D. T., & Scott, R. (1984). *Social stigma: The psychology of marked relationships.* New York: W. H. Freeman.

Katz, I. (1981). *Stigma: A social psychological analysis.* Hillsdale, NJ: Lawrence Erlbaum.

Kleck, R. E. (1968). Physical stigma and nonverbal cues emitted in face-to-face interaction. *Human Relations, 21,* 19-28.

Kleck, R. E., Ono, H., & Hastorf, A. H. (1966). The effects of physical deviance upon face-to-face interaction. *Human Relations, 19,* 425-436.

Langer, E., Fiske, S., Taylor, S. E., & Chanowitz, B. (1976). Stigma, staring and discomfort: A novel-stimulus hypothesis. *Journal of Experimental Social Psychology, 12,* 451-468.

Rosenthal, R., & DePaulo, B. M. (1979). Sex differences in accommodation in nonverbal communication. In R. Rosenthal (Ed.), *Skill in nonverbal communication* (pp. 68-103). Cambridge, MA: Oelgeschlager, Gunn & Hain.

Shepard, R. N. (1980). Multidimensional scaling, free fitting and clustering. *Science, 210,* 390-398.

Snow, C. E., & Ferguson, C. A. (1977). *Talking to children.* Cambridge: Cambridge University Press.

Snow, C. E., van Eeden, R., & Muysen, P. (1981). The interactional origins of foreigner talk: Municipal employees and foreign workers. *International Journal of Sociology of Language, 28,* 81-91.

Soucie, R. M. (1979). Common misconceptions about nonverbal communication: Implications for training. In A. Wolfgang (Ed.), *Nonverbal behavior: Applications and cultural implications* (pp. 209-218). New York: Academic Press.

Spradlin, E., & Rosenberg, S. (1964). Complexity of adult verbal behavior in a dyadic situation with retarded children. *Journal of Abnormal and Social Psychology, 68,* 694-698.

Valdman, A. (1981). Sociolinguistic aspects of foreigner talk. *International Journal of the Sociology of Language, 28,* 41-52.

Wiemann, J. M. (1977). Explication and test of a model of communicative competence. *Human Communication Research, 3,* 195-213.