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What is This?
Interpersonal Sensitivity in Teaching Interactions

Frank J. Bernieri
Oregon State University

This study investigated the relation between the amount learned by high school students in a brief teaching session conducted by their peers and two aspects of the interpersonal sensitivity of teacher and student, encoding ability and decoding ability. Encoding ability was measured with a paper-and-pencil scale of empathic sensitivity believed to measure self-presentation and role-taking ability. Decoding ability was measured with (a) the PONS, a film designed to assess sensitivity to nonverbal behavioral cues, and (b) a measure of person-perception accuracy derived from self-report and rating-of-partner questionnaires. Student learning was strongly correlated with the encoding skill of the teacher but was not correlated with the teacher's decoding ability. The opposite pattern of results emerged for students. Students' learning was correlated with their own decoding skill but was not correlated with their encoding ability. Results support a multidimensional construct of interpersonal sensitivity and demonstrate its potential impact in one-on-one teaching interactions.

Ever since Getzels and Jackson (1963) reviewed the literature on teachers' personality, the link between teacher characteristics and teacher effectiveness has been known to be tenuous at best. Recently, research in the fields of psychotherapy and medicine has led to a growing appreciation of the important role that interpersonal sensitivity and social skill play in the effectiveness of health professionals (Blanck, Buck, & Rosenthal, 1986). Likewise, interpersonal sensitivity may be one characteristic that influences the success of the teaching and learning process.

In an early review of the literature on teacher characteristics and effectiveness, Getzels and Jackson (1963) looked at qualities such as teacher intelligence, education, training, attitudes, projective responses, interests, and personality and concluded that "not very much that is especially useful has been revealed" (p. 574). There has been a general failure for wide-spectrum personality inventories to turn up any robust effects on teaching effectiveness (e.g., Carlile, 1954; Erdle, Murray, & Rushton, 1985; Jackson & Guba, 1957; Poggio, 1973).

The failure to find a robust link between teacher characteristics and teacher effectiveness has been blamed in part on weaknesses in personality theory and measurement. Getzels and Jackson (1963) claimed that, as a consequence, researchers had used tests on the basis of their availability rather than on their relevance to teaching and that this had led to a "shotgun" type of research, which yielded outcomes that were often inexplicable. They called for a more theoretical and thoughtful approach to the discovery of specific and distinctive features of the effective teacher's personality.

Other educational and interpersonally oriented fields such as psychotherapy and medicine are interested in describing the "effective" professional. One domain that has captured the attention of researchers is interpersonal sensitivity (Harrigan & Rosenthal, 1986). Analysis of medical interviews has led to the conclusion that one of the most important aspects of the therapeutic process is the doctor's sensitivity in understanding a patient's complaints and concerns (e.g., Balint & Balint, 1962; Clyne, 1973; Schuffel, 1977). As in medicine, the interpersonal sensitivity of teachers (and students) would seem to play a significant role in the education process.

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Currently there exists a vast assortment of instruments, derived from varying theoretical perspectives, that purport to measure interpersonal sensitivity either directly or indirectly. The apparent diversity in methods reflects the multidimensionality inherent in a construct of interpersonal sensitivity. Riggio (1986), for example, developed a paper-and-pencil measure of social skill with seven identifiable subskills. These seven skills are roughly described by two dimensions. One dimension makes a distinction between skills at sending (i.e., encoding) and at receiving (i.e., decoding) information, a distinction Riggio points out that is accepted by many other researchers. The other describes the nature of the information as involving either emotional affect or verbal fluency. These two dimensions provide a useful conceptual framework within which the existing research can be understood.

Funder and Harris (1986), for example, have examined some of the many facets of interpersonal sensitivity relevant to encoding, as opposed to decoding, social information and have devised a description of the “sensitive individual.” They measured 40 persons on different measures of sensitivity and collected Q-sort ratings from people who knew each subject well. Subjects who were generally high across their measures of sensitivity were described as being warm, interesting, open to new ideas, and very adept at communication. Funder and Harris pointed out that these qualities involved in sending information to others “seem to characterize almost precisely the prototype of the ‘good clinician,’ the effective psychologist” (pp. 541-542). These very qualities should serve equally well to describe the effective teacher.

It seems likely that students would benefit from increased sensitivity as well, but only within the decoding, or information-receiving, domain. A student who is more adept at decoding the verbal and nonverbal communication of teachers is likely to have an advantage over others who are less sensitive. In one review of 22 studies, Halberstadt and Hall (1980) found a positive relationship between nonverbal information decoding ability and academic achievement as assessed by standardized tests and school performance.

In the present study, the amount of learning achieved by a student after a brief teaching session was correlated to the encoding and decoding sensitivities of both the teacher and the student. Specifically, it was hypothesized that, for teachers, only their encoding sensitivity would predict student learning. For students, however, only measures of their decoding sensitivity would serve as predictors.

METHOD

Subjects

Thirty-eight high school juniors and seniors from a small community in southeastern New York State served as unpaid volunteers; all were enrolled in introductory psychology classes. Subjects in this research tended to be acquainted with one another; however, teacher-student dyads were formed only of students who did not know each other well.

Procedure

Two weeks before collection of the behavioral data, the experimenter had been a guest lecturer in the classes from which the present sample was taken. At that time subjects completed two measures of interpersonal sensitivity. The third measure was collected immediately after the teaching session.

For the teaching session, dyads were formed without regard to sex. The sex composition of the 19 dyads was as follows: 15 mixed-sex dyads, 3 female dyads, and 1 male dyad.5 Of the mixed-sex dyads, 8 had female teachers. Subjects were randomly assigned to the roles of “teacher” and “student.” Teachers were given a deck of 24 index cards containing 24 words and definitions they would be teaching their student. All the words were imaginary words with made-up definitions. Their goal was to teach their student as many of the words as they could in 10 min. Teachers were told that they should not feel restricted to reproducing verbatim the definition they were provided and were encouraged to use their own words to convey the meaning of each word. Typically, teachers would read the word aloud and then give its definition either by reading the definition verbatim or by paraphrasing it in their own words. Teachers were allowed to review the words if they finished early.

Encoding Measure: Hogan’s Empathy Scale

The Empathy Scale (Hogan, 1969) is an empirically derived scale containing 64 true/false items. Hogan first had both laypersons and psychologists describe a “highly empathic person,” using Block’s (1961/1978) California Q-sort procedure. With these he identified high-empathy and low-empathy subgroups of individuals by matching this Q-sort template with archival records from the University of California’s Institute of Personality Assessment and Research (IPAR). Hogan then selected a set of items from the California Psychological Inventory (CPI; Gough, 1975) and the Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinley, 1943) that
best discriminated between the high-empathy and low-empathy subgroups.

The Empathy Scale has been shown to correlate with encoding ability more than with decoding ability (Hogan & Henley, 1970). It has also been found to predict communication competence and effective social functioning (Greif & Hogan, 1973; Hogan, 1969) and is believed to measure self-presentation and role-taking ability (Mills & Hogan, 1978). Thus it has support for being considered primarily a measure of encoding ability.

A subsequent factor analysis and validity check of Hogan’s scale has called into question the usefulness of an empathy score based on the entire scale (Johnson, Cheek, & Smithier, 1983). The 64-item scale has been found to be composed of four relatively orthogonal subscales. Of the four subscales, Sensitivity was the most valid measure (empirically and theoretically) of the construct of empathy as initially defined by Hogan (1969). For this reason only the results from the Sensitivity subscale will be reported.

Decoding Measures

Profile of Nonverbal Sensitivity (PONS). The PONS (Rosenthal, Hall, DiMatteo, Rogers, & Archer, 1979) measures a person’s ability to decode various types of nonverbal behavior. The PONS is a 47-min sound film that contains 220 2-sec auditory and and/or visual segments of a 24-year-old female acting in 20 different emotional situations, from which the verbal content is carefully excluded. For each segment the viewer must choose which of two scenarios the woman is portraying. For example, one choice is between “leaving on a trip” and “returning a faulty item to a store.” Four nonverbal channels and their combinations are represented in the test: (a) face, (b) body, (c) content-filtered speech, in which the semantic content of the audio channel is rendered unintelligible by electronically removing certain frequency bands in the audio signal (Rogers, Scherer, & Rosenthal, 1971), and (d) random-spliced speech, in which the semantic content is rendered unintelligible by cutting the audio track into very brief segments and randomly recombining them (Scherer, 1971). Although the PONS generates a separate subscore for each channel and channel combination, only the results of the total scale are reported here because of the homogeneity of the subscale results. People who score high on the PONS are more interpersonally sensitive as judged by acquaintances, clients, spouses, or supervisors. The PONS is not related to any measures of intellectual intelligence. A more detailed discussion of the test and its validation is provided by Rosenthal et al. (1979).

Interpersonal perception accuracy. Immediately after the teaching session, subjects moved to opposite corners of the room, sat facing away from each other, and filled out two self-report questionnaires. The first was a set of 27 8-point unipolar rating scales covering various dimensions of emotional affect and rapport, measuring subjects’ own feelings during the teaching session (see Appendix for a list of the items used). The second questionnaire was a perception-of-other measure, asking for subjects’ impressions of how their partner felt during the interaction. It contained the same 27 scales as the first questionnaire. Subjects were assured that their responses were completely confidential and that only the experimenter would have access to them. They were encouraged to be as honest and accurate as possible.

From ratings of the self and other an absolute difference statistic was computed by summing the absolute differences down the 27-item questionnaire between a subject’s ratings of his or her partner and the partner’s self-ratings. Objections to this d statistic have been raised as early as 1955, when Cronbach pointed out a number of biases inherent in difference scores. Therefore, in addition to this difference measure of accuracy, we computed a correlational measure that did not contain such biases (Snodgrass & Rosenthal, 1985).

To compute the correlational measure of accuracy, all rating data were standardized within questionnaire type (i.e., rating of self and rating of other) across all interactants. For each person the 27 items from the rating-of-other questionnaire were correlated with the 27 items from the partner’s self-ratings. The Fisher’s z’s of these correlation coefficients were taken as a measure of interpersonal perception accuracy. This metric is sensitive to similarities in variation patterns or scale profiles among items and does not contain the biases found in the d statistic.

The two accuracy measures were highly correlated ($r = .60$), and although all analyses were performed separately for each accuracy measure, their results were very similar. For these reasons we formed a composite interpersonal perception accuracy variable by averaging the two accuracy scores after $z$-transforming them. For simplicity, only the composite accuracy score will be presented.

Measure of Student Learning

After completion of the self-report questionnaires, students were tested for their recall of the 24 words they had been taught. They were given a list of the words and asked to write definitions for as many of the words as they could. Four graders scored each item on a 10-point scale, and the results were averaged. The average intercorrela-
TABLE 1: Correlations Between Student Performance on a Cued-Recall Test and Measures of Interpersonal Sensitivity.

<table>
<thead>
<tr>
<th>Interpersonal Sensitivity Measures</th>
<th>Teacher Sensitivity</th>
<th>Student Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encoding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensitivity subscale of</td>
<td>.74***</td>
<td>.09</td>
</tr>
<tr>
<td>Empathy Scale</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decoding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Profile of Nonverbal Sensitivity (PONS)</td>
<td>.11</td>
<td>.51**</td>
</tr>
<tr>
<td>Perception accuracy</td>
<td>.58</td>
<td>.43*</td>
</tr>
</tbody>
</table>

NOTE: Ns range from 17 to 18.
*p < .10; **p < .05; ***p < .0001.

...tion among the four judges was $r = .98$, indicating high interjudge reliability.

RESULTS

Intercorrelations of the three interpersonal sensitivity measures were computed across all subjects without regard to subject role. The Sensitivity subscale of the Empathy Scale correlated +.22 with the PONS and +.13 with the composite measure of interpersonal perception accuracy; the latter two measures correlated +.21 with each other. None of these correlations reached significance, suggesting that each measure tapped a slightly different aspect of interpersonal sensitivity.

Zero-order correlations relating the interpersonal sensitivity of teachers and students to the students’ performance on the recall test appear in Table 1. It is clear from these results that interpersonal sensitivity, in general, is strongly related to successful teaching interactions. As predicted, different relationships emerged for teachers and students depending on whether the interpersonal sensitivity measure in question was more reflective of encoding or decoding skills.

Students’ performance on the PONS and their perception-of-partner accuracy were positively correlated with scores on the cued-recall test, but the Sensitivity subscale of the Empathy Scale, a measure of encoding ability, showed no strong relationship. In contrast, a teacher’s encoding ability, measured at least 2 weeks prior to the teaching session, strongly predicted the success of that brief teaching session, whereas teachers’ decoding ability showed no significant results.

DISCUSSION

It should be acknowledged from the outset that the present study has some shortcomings regarding its generalizability. For example, a teacher and student sat on stools facing each other while the teacher taught the student a list of nonsense words, a situation far removed from the typical one where a teacher is instructing a class from the front of the classroom and dealing with conceptually deeper material. Nevertheless, the essence of teaching is the transmission of information from Person A to Person B, and this is essentially what was observed in the present context.

Another weakness involved the subjects themselves. The teachers in this study were fellow students who were role-playing their parts. It is difficult to know how these results would generalize to a more appropriately aged and trained teaching sample. The results are consistent, however, with the notion that empathic sensitivity (Hogan, 1969) as a measure of role-taking ability (Mills & Hogan, 1978) would predict how successfully high school students can perform the role of teacher. Another subject-related issue involves the sex of teachers and students. Reviews of the literature have found sex to be related to many indexes of encoding and decoding (e.g., Eisenberg & Lennon, 1983; Hall, 1984). To determine what possible effect this might have, all analyses were repeated, partialing out sex of both teacher and student. The pattern of significant results was unaffected. Finally, the size and scope of this investigation are modest at best, covering only 17-18 teaching interactions.

These limitations should not overshadow the strengths and value of the current findings. The pattern of significant relationships among the different measures of teachers and students fits well with a multifaceted notion of interpersonal sensitivity (Funder & Harris, 1986; Harrigan & Rosenthal, 1986; Riggio, 1986) and the findings of Halberstadt and Hall (1980) regarding the role of decoding ability in academic performance. The PONS test and the perception-of-partner accuracy measure both depend heavily on the straightforward decoding of overt visual information. The fact that this ability in students was associated with academic performance seems logical if one assumes that all learning, by definition, involves a decoding process at some level.

Teachers’ abilities within the decoding domain, however, were not significantly related to students’ performance. This is consistent with the findings of Taylor (1968) and Jecker, Maccoby, Breitrose, and Rose (1964), who found the visual feedback provided by students to be unreliable and often misleading. A teacher’s sensitivity to or increased awareness of overt cues that are invalid cannot be expected to facilitate the teacher’s effectiveness.

The paper-and-pencil measure of encoding ability derived by Johnson et al. (1983) from Hogan’s (1969)
original Empathy Scale showed the opposite pattern of results. Whereas teachers’ scores on this scale strongly predicted their teaching effectiveness, students’ scores did very little to predict their learning success. Johnson et al. (1983) found that this particular measure of encoding sensitivity correlated with personality traits such as perspective taking, empathic concern, and fantasy. They also found that high scorers on sensitivity tended to describe themselves as compassionate, concerned about others, and rule abiding—all qualities that seem conducive to good teaching.

According to the findings of Johnson et al. (1983), sensitive teachers would have active and interesting minds but would readily see things from their students’ perspective, enabling them to communicate more effectively to them. Sensitive teachers would be person oriented and involving. They would experience a genuine interest in and concern for their students. Finally, sensitive teachers would be responsible and would value order. Interestingly, these general characteristics associated with high scorers on sensitivity correspond to the behaviorally defining characteristics of teachers described by Ryan (1960), who, over a 6-year period, coordinated approximately 100 separate studies involving more than 6,000 teachers in 1,700 schools.

Results from the present study supported the hypothesis that interpersonal sensitivity influences the learning process. Furthermore, support was provided for a multidimensional approach to the study of sensitivity as a social skill in that one’s ability to encode interpersonal information along with its consequences may be unrelated to one’s decoding ability and its consequences.

APPENDIX

Items Included in the Self-Report Questionnaires

| 1. Enjoyment | 15. Controlling |
| 2. Excitement | 16. Dominant |
| 3. Interest | 17. Forceful |
| 4. Enthusiasm | 18. Tense |
| 5. Enjoyment of role | 19. Nervous |
| 7. Friendly | 21. Tired |
| 8. Easygoing | 22. Sexy |
| 9. Cooperative | 23. Talkative |
| 10. Attentive | 24. Motivated |
| 11. Angry | 25. Humorous |
| 12. Frustrated | 26. Satisfied |
| 13. Disgusted | 27. Happy |
| 14. Bored |

NOTES

1. The California Q-sort consists of 100 descriptive statements such as “Has high aspiration level for self” or “Appreciates humor,” each printed on a separate card (Block, 1961/1978). A person arranges the items into nine categories (piles) ranging from “extremely character-istic” to “extremely uncharacteristic.” The number of statements allowed in each category is fixed such that all 100 items are eventually arranged into a forced normal distribution that best describes an individual.

2. Some of the 38 subjects who participated in the teaching activity were not present during administration of the interpersonal sensitivity measures. Therefore the N’s for the various analyses may vary slightly depending on the nature of the missing data.

3. The author thanks Nancy Eisenberg for suggesting this analysis.

REFERENCES


