Nonverbal Cues in the Employment Interview: Links Between Applicant Qualities and Interviewer Judgments

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The role of nonverbal behavior in the employment interview inference process was investigated using a modified Brunswik lens model. Thirty-four job interviews for an actual research assistant position were conducted and videotaped. Job applicants' self-appraised motivation to work and social skill were assessed, and their nonverbal behaviors during the interview were scored. Eighteen judges with training and several years' experience in employment interviewing watched the videotaped interviews and rated the applicants on their motivation, social skill, and "hireability." Social skill was found to be more accurately inferred by the judges as a group than was motivation to work. Applicants' social skill was apparently transmitted to the judges via three nonverbal cues. In contrast, there was a lack of correspondence between cues correlated with applicants' self-appraised motivation to work and those used by judges in making their attributions. Implications for employment interview training are discussed.

Not much empirical evidence supports the validity of the employment interview as a means of personnel selection (Ulrich & Trumbo, 1965). However, as the interview is considered by most employers to be an important part of the hiring process, investigators have examined various components of the interview process to discover what distinguishes an unsuccessful interview from a successful interview. The applicant's nonverbal behaviors are often assumed by interviewers to provide useful information that is not likely to be expressed verbally (Schlenker, 1980).

Recent research has demonstrated the importance of nonverbal behaviors in the interview situation (Edinger & Patterson, 1983). Unfortunately, most previous research focuses on only half the role of nonverbal behaviors—connections between the job applicant's behavior and the interviewer's attributions. The present study investigates the full role of nonverbal behaviors in job interviews, that is, the connections between the applicant's job-related qualities and nonverbal behaviors, as well as connections between nonverbal behaviors and interviewer judgments.

Interviewer Judgments

Several studies have examined the effects of the applicant's nonverbal behaviors on the interviewer's impression and hiring decision. The pattern of results suggests that increased eye contact, smiling, gestures, and head nods by an applicant produce favorable outcomes (Edinger & Patterson, 1983). For example, in McGovern's (1976) study, only applicants who displayed such nonverbal behaviors as above-average amount of eye contact, high energy level, speech fluency, and voice modulation were evaluated as worth seeing for a second interview. In Amalfitano and Kalt's (1977) study, applicants who engaged in more eye contact were judged more alert, assertive, dependable, confident, responsible, and as having more initiative. Applicants rated highly on these attributes were also evaluated most likely to be hired. Young and Beier (1977) and Forbes and Jackson (1980) also showed that applicants were most favorably rated when they engaged in more eye contact, smiling, and head movement.

Problems With Previous Research

Two major problems with research into the role of nonverbal behaviors in the em-
ployment interview have been (a) questionable external validity and (b) lack of attention to the applicant's actual qualities (as opposed to interviewers' impressions of them).

**External Validity**

As Hollandsworth, Kazelskis, Stevens, and Dressel (1979) point out, one problem is the limited generalizability of results to the actual interview situation due to the frequent use of role playing or videotape simulations of interviews or the control of verbal content (e.g., Imada & Hakel, 1977; Keenan & Wedderburn, 1975; McGovern, 1976; Washburn & Hakel, 1973; Wexley, Fugita, & Malone, 1975). Amalfitano and Kalt's (1977) use of photographs is probably even less generalizable to actual interviews. Actual interviews are rarely studied; the Hollandsworth et al. and Forbes and Jackson studies are exceptions. However, in the Hollandsworth et al. study, no reliability estimate of the nonverbal behavioral measures was possible because interviews were neither videotaped nor judged by more than one interviewer.

Another external validity problem is that a great majority of studies use students, often enrolled in undergraduate psychology classes, to evaluate interviews (e.g., Imada & Hakel, 1977; Keenan, 1976; Keenan & Wedderburn, 1975; Washburn & Hakel, 1973; Wexley et al., 1975; and Young & Beier, 1977). Obviously, the results of studies using more experienced judges with actual interview training and experience will be more generalizable to real interview situations.

In the present study, these problems were addressed by conducting and videotaping interviews for a real job opening. In addition, evaluations of the applicants were made by individuals with training and experience in making personnel decisions.

**Lack of Attention to the Encoding Process**

The second major problem with previous research concerns the absence of attention to applicants' job-related qualities with which interviewers' estimates of their qualities may be compared. The focus of most studies has been on interviewers' attributions made on the basis of applicants' nonverbal behaviors: For example, an applicant who smiles is perceived as having social skill. No study, however, has examined the relationship between those smiles and applicants' actual social skill. How do nonverbal behaviors mediate between the job applicant's actual qualities and the interviewer's perception of these qualities?

A modified Brunswik lens model (Brunswick, 1956) was used to assess the correspondence between judges' decoding of applicant nonverbal behaviors and applicants' encoding of self-appraised attributes (see Figure 1). This model has three components: applicant qualities, nonverbal cues, and interviewer perceptions of applicant qualities. The left half of the lens represents the relation between nonverbal cues and the applicant's qualities ("ecological validity"), and the right half represents the relation between nonverbal cues and the interviewer's attributions (cue utilization). Achievement refers to the relationship between applicant qualities and interviewer attributions. Correlation coefficients are used to measure the relationships. We place the term ecological validity in quotes because applicant qualities are self-assessed. Obviously, an applicant's actual qualities are difficult or impossible to measure. In this study, we assume that the applicant's self-assessments are reasonably valid measures of their actual attributes. We use the term ecological validity in this article to refer to the relation between an applicant's self-assessed qualities and their nonverbal cues recognizing that, ideally, the applicant's actual qualities should be measured.

The purpose of the present study is to understand the full role of nonverbal behaviors in actual job interviews, using this modified Brunswik lens model to examine the ecological validity, cue utilization, and achievement of attributions made about job-related qualities of job applicants. We believe the lens model can provide a useful basis from which interviewers could make more accurate assessments of job applicants.

**Method**

**Subjects**

Thirty-eight applicants (7 male and 31 female) responded to an advertisement in the local newspaper for
a temporary, part-time position as research assistant in the Psychology Department of a medium-sized Canadian university. Their ages ranged from 18 to 67, and their background in education and work experience varied considerably. Four of the 38 applicants arrived for the interview but were excluded from the study due to technical problems with the videotape \((n = 2)\), pre-existing friendship with the interviewer \((n = 1)\), or refusal to be videotaped \((n = 1)\).

The interviews were actually used for selection. One applicant was hired for the job. Eighteen judges (13 male and 5 female), each with training and several years' experience in interviewing, watched all the videotaped interviews and evaluated the applicants.

**Measures**

*Social skill and motivation to work.* The two applicant qualities selected for study were motivation and social skill. They were chosen because (a) they have often been shown to be major criteria by which applicants are judged by employers (Landy & Trumbo, 1980, p. 212) and (b) they were required for the research assistant position.

Questionnaires were constructed to measure work motivation and social skill. On the work motivation questionnaire, applicants indicated how willing they were to accept each of 10 nonstandard work situations. For example, two items queried how willing the applicant was to work at unusual hours or to accept a lower-than-average wage. Responses, on 5-point scales, ranged from *this is unacceptable to me* to *fine—no problem*. On the social skill questionnaire, applicants reported (a) how they had actually handled and (b) how they felt about handling each of 12 difficult social situations at work. For example, two items asked applicants whether they had apologized without embarrassment when they were wrong or initiated contact with a stranger who was important to their work. Responses, on a 5-point scale, ranged from *always to never*. Parallel items asked how they would feel about handling such a situation. Responses, on a 5-point scale, ranged from *no discomfort at all* to *very uncomfortable*.

*Nonverbal cues.* Seven nonverbal cues were chosen, based on previous studies (Edinger & Patterson, 1983). Dynamic behaviors included time spent talking, facial regard, smiling, gesturing, trunk recline, self-manipulation, and object-manipulation. Static cues included age, sex, formality of dress, and physical attractiveness.

An event recorder was used to measure the dynamic cues. Time talked was scored as the total number of minutes the applicant spent responding to the interviewer's questions. Gesturing, self-manipulation, object-manipulation, and facial regard (looking toward the interviewer's face) were measured as the proportion of the interview spent in these activities. Smiles were measured as the weighted average of time spent in each of five categories of facial pleasantness (from full smile to negative expression). Recline was measured as the weighted average of time spent in each of four positions (from a slight back lean to a very forward lean). Formality of dress was coded on a 3-point scale (informal to formal). Physical attractiveness was coded on a 7-point scale (from very ugly to suitable for a fashion magazine cover).

**Figure 1.** A modified Brunswik lens model: The inference of job applicant qualities through nonverbal cues.
Procedure

Appointments were made with job applicants when they telephoned in response to an advertisement in the local newspaper. Upon arrival at the interview, held in the laboratory office, the interviewer, a female laboratory employee, asked applicants for permission to videotape their interviews so the employer could view them later because he could not be present at all the interviews. The interviewer asked a standard set of 10 typical interview questions, offered brief acknowledgments to responses, and attempted in all interviews to maintain a consistent pattern of nonverbal behavior.

The camera was placed in a smoked-glass cabinet just behind and over the shoulder of the interviewer so that viewers of the videotape saw the applicant very much as the interviewer did. After the interview, applicants asked any questions they wished to about the job and completed the motivation and social skill questionnaires. Finally, applicants were told that the job interview was part of a study as well as a real interview and asked for the experimental use of the visual channel of their interviews.

The second phase of the study involved the scoring of applicants’ nonverbal behaviors. Two scorers were trained; they measured the nonverbal behaviors from the videotapes.

In the third phase of the study, one or two judges at a time viewed the interviews on tapes in five approximately 45-min sessions. To counteract order effects, five different orders of interviews were presented to the judges. They reviewed blank social skill and motivation-to-work questionnaires identical to those completed by the job applicants, then watched the videotaped interviews (which ranged from 2.5 min to 23 min in length) with the sound turned off. Then the judges rated the applicants on motivation and social skill on 1-to-10 scales. On the motivation scale, high ratings indicated that the judges believed the applicant would have responded fine—no problem to most or all of the 12 nonstandard conditions. On the social skill scale, high ratings indicated that the judge believed the applicant would have responded always and no discomfort at all to most or all of the 10 difficult social situations. Judges also rated the applicants’ hireability, on a 1-to-10 scale, on which higher ratings indicated greater likelihood that the judge would hire the applicant.

Results

Reliability of Measures

The reliability of the scales measuring applicant motivation and social skill was assessed with Cronbach’s alpha and judged adequate (motivation: alpha = .72; social skill: alpha = .80). Measurements of nonverbal cues by the two scorers were highly correlated (rs ranged from .74 to .99; see Table 1). The judges’ ratings were also highly reliable. Reliability coefficients, estimated as intraclass correlations, were as follows: motivation (.97), social skill (.95), and “hireability” (.92). Interestingly, the applicant who received the highest mean “hireability” score of the 34 applicants was the same individual selected for the position by the employer, who was blind to the judges’ ratings.

Applicants’ Self-Assessed Qualities, Nonverbal Cues, and Judged Qualities

Table 1 displays the means and standard deviations of the job applicants’ self-reported qualities, nonverbal behaviors, and judges’ attributions.

As might be expected from individuals seeking an actual job, applicant reports of their motivation and social skill were high (means of 4.2 and 4.1 on 5-point scales), but both qualities showed reasonable variability (standard deviations of .52 and .35). The applicant’s mean age was about 30; their dress and physical attractiveness moderate. Applicants averaged about 6.3 min time answering the 10 questions. They gazed at the interviewer about 41% of the time, gestured about 7% of the time, engaged in self-manipulation about 4% of the time, and engaged in object-manipulation about .7% of the time.
Mean recline was 2.21, where 1 was labeled slight back recline and 5 was labeled very forward recline. Smile averaged 3.47, where 1 was labeled negative expression and 5 was labeled full smile.

Judges viewed the applicants as moderately motivated and socially skilled. Mean judged motivation was 4.9 on the 10-point scale where five was labeled would say "fine—no problem" to 5 of the 10 nonstandard work situations. Mean judged social skill was 4.5 (on the 10-point scale), where five was labeled would say "always handle well" with "no discomfort" to 7 or 8 of the 12 difficult social situations at work. On the 10-point scale, the average "hireability" score was 4.4.

**Linearity, Ecological Validity, Cue Utilization, and Achievement**

As this study was primarily concerned with the pattern of inference in our judges as a group, the first analyses were based on group data.

Multiple regression analyses were used to determine the degree of linearity in both the environmental and organismic systems (Hammond, Hursch, & Todd, 1964). In the environmental system, the nonverbal cues account for 49% and 58% of the variance in applicants' self-assessed motivation and social skill, respectively. In the organismic system, nonverbal cues account for 62% and 58% of the variance in judges' ratings of applicants' motivation and social skill, respectively.

Ecological validity was computed as the Pearson correlation coefficients between applicants' self-assessed qualities (motivation and social skill) and the static and dynamic nonverbal cues. Interviewer cue utilization was computed as the correlations between the nonverbal cues and the judges' ratings of applicants' motivation and social skill. Tables 2 and 3 display these correlations.

An examination of the left-hand portion of the lens model, which indicates ecological validity, shows that applicants' self-assessed motivation is significantly reflected in sex, dress, and trunk recline. Applicants who perceived themselves as highly motivated dressed more formally and leaned back more in their interviews. Males reported being more motivated than did females.

<table>
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<tr>
<th>Applicant motivation—cues (Ecological validity)</th>
<th>Judged motivation—cues (cue utilization)</th>
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<tr>
<td>.07 Age</td>
<td>.12</td>
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<tr>
<td>.42** Sex</td>
<td>.04</td>
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<tr>
<td>.30* Dress</td>
<td>.28</td>
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<tr>
<td>.002 Physical attractiveness</td>
<td>.25</td>
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<tr>
<td>.31* Recline</td>
<td>.24</td>
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<tr>
<td>.25 Facial regard</td>
<td>.05</td>
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<tr>
<td>.05 Time talked</td>
<td>.52**</td>
</tr>
<tr>
<td>.27 Smiles</td>
<td>.38*</td>
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<tr>
<td>.13 Gestures</td>
<td>.48**</td>
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<tr>
<td>.08 Self-manipulation</td>
<td>.10</td>
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<td>.28 Object manipulation</td>
<td>.22</td>
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*p < .05. **p < .01.

Rate of gesturing, time spent talking, age, sex, and dress correlated significantly with social skill. Applicants who judged themselves more socially skilled dressed more formally, gestured at a higher rate, and spent more time talking in their interviews. Male and older applicants reported having more social skill.

Cue utilization is indicated by the correlation coefficients in the right-hand portion of the lens model. Applicants who smiled more, gestured at a higher rate, and talked more were perceived to be more motivated to work. Greater social skill was attributed to those applicants who dressed more formally, used more gestures and spent more time talking in the interview.

The accuracy of judges' attributions (achievement) was determined by correlating applicants' self-assessed qualities with judges' attributions. The correlation coefficient for motivation was not significant ($r = .09$), but that for social skill was ($r = .29, p = .05$).

**Inference of Social Skill and Motivation**

Inspection of Tables 2 and 3 and Figures 2 and 3 show that social skill is inferred more accurately than motivation, presumably because more ecologically valid cues (i.e., sex, age, dress, time talked, and gesture rate) are associated with applicant social skill and be-
Table 3
Pearson Correlation Coefficients Between Applicants' Self-Assessed Social Skill and Nonverbal Cues, and Nonverbal Cues and Judged Social Skill

<table>
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<th>Applicant social skill — cues (Ecological validity)</th>
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<tbody>
<tr>
<td>.42** Age</td>
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<tr>
<td>.38* Sex</td>
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<td>.50** Time talked</td>
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*p < .05. **p < .01.

cause the cue utilization of three of these cues (i.e., dress, time talked, and gesture rate) corresponds to the ecologically valid relationships between applicants' self-assessed qualities and nonverbal behaviors. In other words, applicants' social skill is apparently transmitted or "flows through" these nonverbal cues to judges.

In contrast, there is a notable lack of correspondence between cues actually correlated with applicant motivation and those that are believed by judges to relate to applicants' self-assessed motivation.

Correlations among judged qualities were computed. Motivation, social skill, and "hireability" are highly intercorrelated (rs range from .85 to .89). Whereas judged motivation and social skill share 75% of their variance \((r = .87)\), applicants' self-assessed motivation and social skill share less than 8% of their variance \((r = .28)\). As Brunswick (1956) found long ago, judges perceive that the connections among applicant qualities are closer than they actually are. Inspection of Tables 2 and 3 shows that cue-utilization patterns for judged motivation and judged social skill are very similar. That pattern represents significant inferential achievement by the judges in the case of social skill but striking mis-inference in the case of motivation.

Individual Judges

Although the purpose of this article is to examine the inferences of judges as a group, the inferences of individuals can also be investigated (Hammond et al., 1964). There are individual differences among judges'
achievements. For motivation, achievement ranges from -.13 to .39, with the median value of .03. For social skill, achievement ranges from -.32 to .51. The median value is .10. There is little evidence of systematic, nonlinear variance in the environmental system that judges were able to detect. The median value of correlation between residual variances (C; Hammond et al., 1964) is close to zero (motivation: .09; social skill: .14), indicating little, if any, relation between the residual variance in the environmental and the organismic system.

The matches ($d$) between ecological validities and cue utilizations (Hammond et al., 1964) by individual judges were computed for each judge. For motivation, $d$ ranges from .05 to 1.33, with a median of .95. For social skill, the range is from .86 to 1.83, with a median of 1.43. Considering that $d$ may take on values ranging from 11 to -11, the $d$ values reported here are reasonably small. In other words, the degree of match is reasonably good.

Discussion

The value of the lens model in elucidating the full role of nonverbal behaviors in the job interview process is clear. Social skill, desirable for most job positions, is shown in this study to have been reasonably accurately inferred by interviewers through these applicant nonverbal cues in the interview: rate of gesturing, time spent talking, and formality of dress. Applicant motivation, however, was poorly inferred or, more precisely, was mis-inferred by judges.

One probable explanation for this pattern of results is that social skill is encoded more clearly in nonverbal behavior than is motivation. As Harriot (1971) suggested, the job interview itself is a social interaction in which both the applicant and the interviewer are expected to follow their role behaviors. Applicants who have acquired appropriate role behaviors through past experience apparently demonstrate their social skill through nonverbal behaviors and the way they dress for the interview. Interviewers seem to pick up these same cues because they are the expected role behaviors of applicants.

However, it may be more difficult for applicant motivation to be inferred accurately from nonverbal behaviors. Other information, such as the applicant's preparation for the interview or the applicant's verbal statements, may be more accurate indicators of applicants' motivation for a job position. Whether applicants arrive early for their interviews, their verbal responses to the questions or, perhaps, the questions they ask at the interview might be better indicators of their degree of motivation than is nonverbal behavior.

Perhaps when judges are restricted to nonverbal cues, their inability to perceive valid indicators of applicant motivation leads them to rely on their judgment of social skill as an indicator of motivation. The pattern of results indicating that social skills are more accurately inferred and that judges' estimates of motivation are closely tied to their estimates.
of social skills support this notion. If so, this reliance is unfortunate, because applicant social skill is only slightly related to applicant motivation.

Findings based on the lens model might be used to foster a better relationship between ecological validity and cue utilization. Greater accuracy (or, in lens model terminology, achievement) in the employment interview inference process might be obtained with an improved match between ecological validity and cue utilization and selection of the appropriate nonverbal cue predictors (Hammond et al., 1964). It would be useful to examine the inference process for other job-related qualities.

Our own research is now also directed toward investigating the role of verbal behaviors in the inference of applicants' qualities. As mentioned earlier, 40% to 50% of the variance is unaccounted for by the nonverbal cues examined in this study. Obviously, verbal behavior also plays an important role in job interviewing.

Social Implications

The results of this study could have practical implications for job interview training. More lens model-based research is necessary before firm conclusions may be drawn, but eventually applicants might be taught to exhibit particular nonverbal behaviors that reflect job-related qualities valued by interviewers in the attribution process. Interviewers, on the other hand, might focus on nonverbal cues that truly reflect applicants' job-related qualities. A more immediate goal is to attain a better match between cues used by interviewers in their attributions and those representative of applicants' actual attributes. In any case, more attention to the full role of nonverbal behavior is warranted. The lens model seems an appropriate and promising tool for this purpose.

References


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