

# MEASURING LANGUAGE ATTITUDES: THE SPEECH EVALUATION INSTRUMENT

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**Abstract** This paper describes investigations in the measurement of listeners' evaluations of spoken language. Lack of integration in research in this area has been due in part to the numerous measurement instruments used to assess such evaluative reactions. The paper reviews the development of past instruments, describes the design, analysis, and implementation of an omnibus measure, the Speech Evaluation Instrument (SEI), and interprets these findings in light of past research. The use of the SEI is recommended to researchers as a way to make findings of various studies more comparable. Although the development of the SEI was based on evaluation of linguistic diversity, its applicability to a wider range of speech phenomena is suggested.

Studies of language variation and its evaluative consequences have been conducted by a number of research groups under various labels: speech evaluation research, speech style research, and language attitude research. An impressive array of description has been collected, yet efforts to integrate the research and provide theoretical bases for the work have lagged behind (although see Bradac, Bowers & Courtright, 1979; Giles & Powesland, 1975; Giles & Ryan, 1982; Ryan & Giles, 1982).

One impediment to integration of research findings has been the number and diversity of speech evaluation measures. A wide variety of questions have been investigated using variations on the 'matched guise' manipulation of language varieties as independent variables. Dependent variables (evaluations) in such studies have been semantic differential or Likert-type items. The semantic differential has been most prevalent in evaluation studies, although Likert-type items have been used to assess the belief components of language attitudes in a more 'direct' fashion (c.f. Agheyisi & Fishman, 1970; Ryan & Carranza, 1980; Ryan, Giles & Sebastian, 1982).

Speech evaluation researchers have considered in detail the nature of the language varieties employed as independent variables and their effect on listeners' evaluations of speakers. However, less attention has been paid to dependent measures. Measurement instruments have varied in the number of items, the type

of items, the procedures for item development, the directness of assessment, the sophistication of scale analysis, and the type and number of factors said to underlie evaluations. Thus, the evaluations have been examined with diverse, partially-overlapping sets of items often designed for the particular purposes of single studies. We have devised a comprehensive instrument which concurrently assesses the dimensions of listeners' evaluative reactions to speakers and their language which have been identified in previous research.

### Previous Measures

Lambert and his associates (e.g. Lambert, Frankel & Tucker, 1966; Lambert, Hodgson, Gardner & Fillenbaum, 1960; Tucker & Lambert, 1969) measured language attitudes using 14 or 15 Likert-type items representing a little or a lot of a particular personality trait. The effects of differing language varieties were measured using six point bi-polar items thought to reflect evaluations of speakers' physical and personality traits. For example, items were used which reflected height, good looks, intelligence, kindness, and likeability. Each item was analysed singly. Psychometric concerns, such as the reliability of the items in the measurement instrument or the factors underlying the items, were not addressed in these earliest studies. Lambert *et al.* (1966) did group items into categories of *personal integrity*, *personal competence*, and *social attractiveness*, although no empirical support for these groupings was advanced.

Williams and his associates (Hopper & Williams, 1973; Whitehead, Williams, Civikly & Albino, 1974; Williams, 1970, 1976; Williams, Whitehead & Miller, 1972) used procedures derived from the work of Osgood, Suci & Tannenbaum (1957). These procedures involved (1) use of bi-polar adjectives gleaned from interviews with members of the subject population, rather than items generated exclusively by researchers, (2) grouping items into scales using factor analysis of ratings, and (3) relating scale data to communication outcomes using multiple regression. This work concentrated on the context of teachers' attitudes towards childrens' speech. Items analysed included correct–incorrect, clear–unclear, complete–incomplete, confident–unsure, active–passive, hesitant–enthusiastic, and advantaged–disadvantaged. Factor analysis of the semantic differential items consistently revealed teachers rating speakers in terms of two dimensions: *confidence–eagerness* and *ethnicity–nonstandardness*. Ratings of speakers on these two scales served as important predictors of teachers' academic ratings.

Hopper & Williams (1973) used somewhat different items to investigate the impact of language variety upon evaluations of job applicants by job interviewers. These items displayed a four factor evaluation model of *competence*, *likeability*, *self-assurance*, and *anglo-like*. The four factors accounted for 65% of the variance in subjects' ratings of how the speaker 'sounded' to them. Items included organised–disorganised, intelligent–unintelligent, warm–cold, and self-assured–timid. In later research, Hopper (1977) found a two factor model composed of *competence* and *likeability*. These factors also predicted simulated hiring decisions.

Giles and his associates have used a number of different scales for various projects. Giles (1971) investigated reactions to R.P., South Welsh, and Somerset

accented speech, borrowing 14 trait-like terms (from Strongman & Woosley, 1967) that tapped evaluations of self-confidence, determination, goodnaturedness, intelligence, imagination, and kindheartedness. Bourhis, Giles & Tajfel (1973), studied Welsh reactions to Welsh and English by asking Welsh adults to list as many words and phrases as they could which described a typical Englishman, a Welsh bilingual, and a Welshman. Words used most frequently were retained as dependent measures. Thakerar & Giles (1981) used an instrument devised by Brown, Strong & Rencher (1975), which assessed listeners' evaluations of speakers along the dimensions of *competence* and *benevolence*. Later research revealed four factors of evaluation: *evaluation*, *confidence*, *informality*, and *accent* (Ball, Byrne, Giles, Berechree, Griffiths, MacDonald & McKendrick, 1982).

Ryan and her associates have assessed the reactions of adolescents to standard English and Mexican-American accented English using scales which focused on the dimensions of *status* and *solidarity* (Carranza & Ryan, 1975; Ryan, Carranza & Moffie, 1977). The status stressing scale included the items educated-uneducated, wealthy-poor, successful-unsuccessful, and intelligent-unintelligent. The solidarity stressing scale included the items trustworthy-untrustworthy, friendly-unfriendly, good-bad, and kind-cruel. Ryan & Carranza (1975) also found an *activity/potency* factor which was made up of items having to do with energy, activity, aggressiveness, and athleticism. A recent study of Australian Aboriginal and white speakers by Gallois, Callan & Johnstone (1984) using similar items also yielded two factors of evaluation, again labelled status and solidarity.

Mulac has developed the Speech Dialect Attitudinal Scale (SDAS), which has consistently yielded a three factor model of listeners' evaluations of variation such as accentedness and so called 'womens' speech' (Bradac & Mulac, 1984; Mulac, 1975, 1976; Mulac, Hanley & Prigge, 1974; Mulac & Lundell, 1980, 1982; Mulac & Rudd, 1977). The three subscales were labelled *socio-intellectual status*, *aesthetic quality*, and *dynamism*. The socio-intellectual status dimension of the SDAS was made up of the items high social status-low social status, literate-illiterate, rich-poor, and white-collar-blue-collar. Aesthetic quality included the items sweet-sour, pleasing-displeasing, nice-awful, and beautiful-ugly. Dynamism was composed of the items strong-weak, active-passive, aggressive-unaggressive, and soft-loud. The SDAS has probably appeared in more studies to date than any other measure, and it has yielded a consistent factor structure.

Bradac and his colleagues, rather than concentrating on accent or dialect variation, have conducted investigations of the impact of lexical variation on evaluations of speakers (e.g. Bradac, Courtright, Schmidt & Davies, 1976; Bradac, Davies, Courtright, Desmond & Murdock, 1977; Bradac, Desmond & Murdock, 1977; Bradac, Kinsky & Davies, 1976). Dependent variables in these studies have included the *competence*, *trustworthiness*, and *dynamism* dimensions of speaker credibility. Similar criteria have been used to assess evaluation of speakers based on language intensity (Bradac, Bowers & Courtright, 1979).

Certain similarities have emerged in the dimensions of evaluation identified by the various researchers. Dimensions labelled something like *competence*, *status*, *character*, *solidarity*, and *dynamism* appear in the findings of a majority of the

studies. Dimensions like competence share items such as intelligent–unintelligent, ambitious–unambitious, organised–disorganised, and experienced–inexperienced. Status dimensions include items such as literate–illiterate, white-collar–blue-collar, and rich–poor with other items showing some overlap with competence (e.g. intelligent–unintelligent) and ethnicity–nonstandardness (e.g. organised–disorganised, educated–uneducated).

Dimensions alternately labelled character, benevolence, and trustworthiness share items such as honest–dishonest, sympathetic–unsympathetic, kind–unkind, trustworthy–untrustworthy, and pleasant–unpleasant. These dimensions also share quite a few items with those labelled *attractiveness*, *social attractiveness*, *solidarity*, *agreeableness*, *likeability*, and *aesthetic quality*. Besides the items just mentioned, these dimensions also share items such as warm–cold, nice–awful, good–bad, and friendly–unfriendly. A final dimension of *dynamism* includes aggressive–unaggressive, active–passive, strong–weak, and confident–unsure.

Except for the work of Mulac and of Williams, few measures have exhibited consistent factors across different studies. Further, few studies have consistently revealed more than two of these factors of evaluation, most probably because analyses have not included all the items making up the various dimensions. This inconsistency in measurement approaches makes it difficult to compare research findings (Giles & Powesland, 1975: 77). Given the items used in previous research, as many as five factors could emerge from an analysis including items tapping all the aforementioned constructs. It is also possible that ‘hybrid’ factors might emerge, such as a combination of *competence* and *status* or a combination of *character* and *attractiveness*, given the types of items that have made up such factors.

A measurement instrument is presented here which accounts for the major components of listeners’ evaluations of speakers. This Speech Evaluation Instrument (SEI) may provide researchers a ‘standardised’ instrument and a way of making research results increasingly comparable with each other.

## Method

In order to create a comprehensive measurement instrument, items from the various research programmes were identified and pooled. Given the use of credibility measures by Bradac and his colleagues, items from credibility research were also included (Berlo, Lemert & Mertz, 1969; McCroskey & Young, 1981; Whitehead, 1968). This initial grouping yielded 152 items, many of which were repetitions. It was decided that the semantic differential form of scaling would be used, since it seemed most appropriate to the general nature of the type of evaluation being assessed and is the measurement procedure suggested by contemporary attitude theory (Fishbein & Ajzen, 1975). Thirty-one items were discarded because they either were not directly concerned with attitude-based evaluation (e.g. high pitch–low pitch) or were difficult to cast in semantic differential form (e.g. eventual occupation). The remaining 121 items were then reduced to 56 based on redundancy and sensibility given instructions to the subjects asking them to keep in mind the phrase ‘The speaker sounds:’ as they responded to each item.

## Respondents

The respondents in this study were 572 undergraduate students attending two large universities in the southwestern United States. Data were collected from such a large number of respondents because of the number of variables (56) involved in the study. In order to ensure a stable, replicable factor structure and minimise sampling error, Nunnally (1978) advises that a subjects to variables ratio of ten to one ought to be used in factor analyses in social science studies. Two hundred and ninety-four of the students came from one of the universities while 278 came from the other. The students received course credit for their participation in the study.

## Procedure

The 294 students at one university each heard one of four audio-taped speakers, each of whom spoke for two to three minutes. The respondents heard the tape in a large classroom setting. Sixty-nine of the students heard a linguist interview a 14-year-old black female from a Southern state. Ninety-six of the students heard a linguist interview a ten-year-old white male whose speech displayed an Appalachian dialect. Eighty respondents evaluated the speech of a male midwestern graduate student. A female graduate student from the midwest was evaluated by 49 participants. The 278 students at the second university each heard one of 25 job interviews, each lasting 20 minutes. In these tapes, interviewers and interviewees spoke a southwestern variety of American English. Thirteen sets of ratings were done on the interviewers while 12 were done on the interviewees.

The variety in speakers, speech varieties, and speaking situations mentioned above was used in order to make the results of the study more generalisable than would be the case if a single variety was presented by a single speaker in a single speaking situation (Jackson & Jacobs, 1983). Each of the subjects at both universities were presented with the speech and then instructed to rate the speakers on the 56 semantic differential items. The items were presented in two randomized orders. All respondents were instructed to respond to each rating scale in terms of the way the speaker sounded to them.

## Results

The data from the 56 semantic differential items were subjected to factor analysis using the principal axes methods of factoring. A combination of the scree test (Cattell, 1978) and interpretability were used to decide on the number of factors to retain. Three factors were rotated obliquely and the final solution was based on 30 of the items as presented in Table 1.

In the first phase of analysis, a variable or item was considered to be loaded on a factor if its loading was greater than 0.50 and all of its other loadings were smaller than 0.30. Later, the number of items was reduced further by assessing which items loaded the most consistently in splits of the sample. The means of the primary loadings for the solution in Table 1 were 0.75, 0.72, and 0.74, with an overall mean of 0.03. The three factors were labelled *superiority*, *attractiveness*,

and *dynamism* and they accounted for 64.5% of the variance in the subjects ratings. Reliabilities were assessed using Cronbach's coefficient alpha.

**Table 1** Results of Principal Axes Factor Analysis (Oblique Rotation)

<i>Variable</i>	Factor I ( <i>Superiority</i> )	Factor II ( <i>Attractiveness</i> )	Factor III ( <i>Dynamism</i> )
1. Literate—Illiterate	0.88	0.01	—0.14
2. Educated—Uneducated	0.87	0.04	—0.10
3. Upper class—Lower class	0.84	0.01	—0.15
4. Rich—Poor	0.80	—0.01	—0.13
5. Intelligent—Unintelligent	0.78	0.08	0.05
6. White-collar—Blue-collar	0.72	—0.03	—0.15
7. Clear—Unclear	0.71	0.06	0.16
8. Complete—Incomplete	0.69	0.09	0.21
9. Fluent—Disfluent	0.69	0.06	0.23
10. Organised—Disorganised	0.69	0.05	0.15
11. Experienced—Inexperienced	0.68	—0.04	0.24
12. Advantaged—Disadvantaged	0.68	0.11	0.14
13. Sweet—Sour	—0.04	0.80	—0.05
14. Nice—Awful	0.03	0.78	0.01
15. Good natured—Hostile	—0.04	0.78	—0.07
16. Kind—Unkind	0.04	0.77	0.01
17. Warm—Cold	—0.16	0.76	0.10
18. Friendly—Unfriendly	—0.14	0.75	0.09
19. Likeable—Unlikeable	0.02	0.71	0.14
20. Pleasant—Unpleasant	0.18	0.69	—0.01
21. Considerate—Inconsiderate	0.22	0.62	—0.14
22. Good—Bad	0.18	0.62	0.11
23. Honest—Dishonest	0.23	0.61	—0.06
24. Active—Passive	0.00	0.05	0.80
25. Talkative—Shy	—0.23	0.06	0.80
26. Aggressive—Unaggressive	0.06	—0.16	0.76
27. Enthusiastic—Hesitant	—0.14	0.21	0.74
28. Strong—Weak	0.27	—0.06	0.72
29. Confident—Unsure	0.26	0.02	0.70
30. Energetic—Lazy	0.03	0.21	0.68
Eigenvalue	11.13	4.76	3.47
% of variance accounted for	37.10	15.90	11.60
Reliabilities	0.95	0.93	0.91
Factor pattern correlations			
Factor I	1.00	—	—
Factor II	0.34	1.00	—
Factor III	0.16	0.30	1.00

In order to get some idea of the stability and replicability of the factor structure, the data were then analysed by splitting the overall sample in half in two different ways. The first split was done so that each half contained a random selection of the respondents stratified on the samples. That is, each subsample contained half of the subjects from each of the universities. Each of these subsamples were factored

using as variables the 30 items retained in the original overall analysis. The results of these factorings were extremely consistent with those of the overall solution and with each other. The original solution (1) was compared against the two sample splits (2, 3) and the sample splits were compared against each other for each factor. Pattern and magnitude similarity were assessed using the root mean square coefficient (Factor I:  $\mu_{12}=0.04$ ,  $\mu_{13}=0.11$ ,  $\mu_{23}=0.07$ ; Factor II:  $\mu_{12}=0.05$ ,  $\mu_{13}=0.05$ ,  $\mu_{23}=0.09$ ; Factor III:  $\mu_{12}=0.06$ ,  $\mu_{13}=0.06$ ,  $\mu_{23}=0.10$ ).<sup>1</sup>

The two separate university samples were factored, again using the 30 variables retained in the overall analysis. The results of these analyses were also compared. Pattern and magnitude similarity were again assessed using the root mean square coefficient (Factor I:  $\mu_{12}=0.10$ ,  $\mu_{13}=0.49$ ,  $\mu_{23}=0.49$ ; Factor II:  $\mu_{12}=0.05$ ,  $\mu_{13}=0.10$ ,  $\mu_{23}=0.13$ ; Factor III:  $\mu_{12}=0.09$ ,  $\mu_{13}=0.49$ ,  $\mu_{23}=0.49$ ).

## Discussion

The overall results presented here suggest a three factor model of speech evaluation. The factors, in many ways, are similar to those found or hypothesised in earlier studies. The first factor, *superiority*, combines intellectual status and competence (literate–illiterate, educated–uneducated, intelligent–unintelligent), social status items (upper class–lower class, white-collar–blue-collar, rich–poor, advantaged–disadvantaged), and speaking competency items (clear–unclear, organised–unorganised, complete–incomplete, experienced–inexperienced, fluent–disfluent). Thus, this factor represents a broad class of evaluations, incorporating both status and education elements that have been found in previous studies. In addition, the speaking competency items indicate a concern on the part of listeners with traditional criteria for ‘good’ speaking. This factor seems a more expansive descendent of Mulac’s sociointellectual status; the present factor more fully combines perceptions of both status and merit. Why do ratings of social status mix freely with those of educational achievement/intelligence and with elitist-literary prescriptions? Raters apparently define *superiority* as a blend of social status, intellectual achievement, and the speech characteristics of advantaged and educated members of society.

The second factor, labelled *attractiveness*, displays elements of factors previously termed social attractiveness, solidarity, trustworthiness, character, benevolence, likeability, and aesthetic quality. The items loading on this factor all suggest a concern with the qualities of speakers and their speech which reflect both social and aesthetic appeal. The presence of an attractiveness factor indicates that evaluators regard speech as an aesthetic object (like music) as well as a pragmatic one. Again, the results suggest a broader, more inclusive dimension than those labelled likeability, solidarity, or aesthetic quality.

The third factor, *dynamism*, has not appeared in as many studies as the previous two factors but is clearly an important component of speech evaluation. This factor includes items from Williams’ (1976) confidence–eagerness factor and Mulac’s (1975, 1976) dynamism factor. The items display raters’ concern for speakers’ social power, activity level, and the self-presentational aspects of speech.

The results of the analysis of the overall sample seem consistent with and replicated by the analyses done on the splits of the sample. However, the analyses of the two subsamples from the two data collection sites did not display the same degree of stability. While subsample 1 clearly matched the factors in the overall analysis, subsample 2 did not. In subsample 2, the *attractiveness* factor was quite stable, but there was shifting within the *superiority* and *dynamism* factors. The pattern of change indicated that the data collected where the respondents rated interviewers and interviewees reflected a concern for 'good' speaking and self-presentation. The dynamism items and the speaking competency items all loaded on a sort of presentation skill factor which accounted for 49% of the variance in the ratings. This shift in item performance may have resulted from the nature of the speech stimuli in the second sample. The job interview context and the homogeneity of both the speech and speakers may have led raters to evaluate on the basis of self-presentation. These results, while evidencing some inconsistency in the SEI factor structure, do suggest that the instrument is sensitive to both context and rater concerns. They also suggest that the SEI may have usefulness *not only* as a measure of reactions to linguistic diversity but as a *general speech evaluation measure*. The SEI may be useful in comparing sociolinguistic and social-psychological studies of language variation with studies of credibility, attitude change, and other speech-related phenomena.

This tantalising possibility is heightened when one considers the conceptual affinity between our three factors (superiority, attractiveness, and dynamism) and those emergent in source-credibility research (competence, trustworthiness, and dynamism). In each case, the first factor involves socio-centric judgements of pragmatic skill. The second comparison involves aesthetic-solidarity dimensions, and the third pair of factors denotes activity, a dimension also noted by Osgood *et al.* (1957) as basic to connotative meaning.

Although the development of this measurement instrument remains incomplete, we offer the SEI as a valid and comprehensive measure of speech evaluation.<sup>2</sup> The most highly developed precursor of the SEI is Mulac's SDAS. Our research again demonstrates the consistency of the SDAS in that three factors were also found and almost all of the SDAS items loaded on one of the three factors. In fact, the 12 items from the SDAS were entered into separate factor analyses on the overall sample (with upper class-lower class replacing the high social status-low social status), subsample 1, and subsample 2 and the usual three factors of socio-intellectual status, dynamism, and aesthetic quality emerged. While the SDAS exhibits consistency as a measure of speech evaluations, the items loading on the factors in the present study indicate that the superiority and attractiveness dimensions of evaluation, although similar to those measured by the SDAS, are broader and more inclusive constructs than the socio-intellectual status and aesthetic quality dimensions of the SDAS. While the SDAS will continue to be a useful measure of language attitudes, particularly in studies calling for a relatively brief measure as in studies where subjects rate multiple messages, the results of this study suggest that raters' evaluative reactions are slightly more complex and expansive than those tapped by previous measures.

The first priority for further development of the present instrument is to



its use by a wider variety of evaluators. So far, the respondents have been college students, persons whose social and institutional position may very likely affect styles of speech evaluation. The reliability and stability of the present factor structures should be assessed further using other subjects and other speech samples. In particular, respondents who vary in terms of ethnic background, social status, and age must be queried. It remains to be seen whether such studies will reveal results similar to those reported here, or whether different segments of the population utilise different dimensions of evaluation. We recommend that extension of speech evaluation research to new speech communities and contexts include interview and ethnographic assessment of evaluators concerns that may not be directly reflected in the items of the SEI. Bi-polar adjectives obtained from such research concerning the particular language situation or context might be profitably combined with items from a shortened version of the SEI. We also recommend the items in the SEI be subjected to factor analysis in each study of speech evaluation.

Secondly, in order to demonstrate concurrent or predictive validity of the SEI, ratings on the SEI must discriminate among speakers differentiated on the basis of the speech variety they are using. The SEI ought to be sensitive to differences in evaluation that have been consistently documented in the literature. Several studies are presently underway which directly address these validity issues.

Further research with the SEI must be conducted in order to determine the extent to which it will serve as a valuable measure of speech evaluation. We must, of course, take care that undesirable variety in speech evaluation measures is not replaced by undesirable uniformity in approaches to measurement. We offer the SEI as one instrument which shows promise as a valuable measure of language attitudes.

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## Notes

1. Harman (1967) advises that the root mean square coefficient is a stringent and discriminating measure of factor differences. The coefficient is computed as:

$$\mu_{iq} = \left[ \sum_{j=1}^m \frac{(\alpha_{j1} - \alpha_{jq})^2}{m} \right]^{1/2}$$

where  $\alpha_{j1}$  = loading of variable  $X_j$  on factor  $S_1$  of one study,  $\alpha_{jq}$  = loading of variable  $X_j$  on factor  $S_q$  of another study, and  $m$  = the number of variables common to both sides. A coefficient equal to zero indicates that the factors are identical. As  $\mu$  departs from zero, the two factors are said to be less alike.

2. Write to either of the authors for a guide to the use of SEI. The guide also contains a shorter, 19-item form of the SEI which exhibits high internal reliability and correlates very highly with the 30-item version.

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